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GASTRIC AND DUODENAL ULCER

MEDICAL CURE BY AN EFFICIENT REMOVAL OF GASTRIC JUICE CORROSION

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Favored by unusual clinical facilities, I have gradually evolved and established in practice a method of treating gastric and duodenal ulcers. The method is based on well-recognized principles underlying the healing of ulcer. Old and established facts of physiology are largely utilized. The results of treatment are far beyond early expectations.

The treatment consists essentially in accurately protecting the ulcer from gastric juice corrosion until healing of the ulcer takes place.

After an experience of twelve years in applying the principle involved in the treatment, I am convinced that the vast majority of cases of gastric, and more particularly duodenal, ulcer now treated surgically, and with indications commonly accepted as justifiable, can be readily and more quickly cured by the management advocated.

As I understand the ulcer problem, the principles involved in treatment are centered about these important and fundamental questions:

1. What are the causes of peptic ulcer?
2. What retards or prevents the healing of peptic ulcer?
3. What can we as physicians and surgeons do to promote the development of granulation tissue essential to the healing and final cicatrization of peptic ulcer?

For half a century it has been recognized that a peptic ulcer develops in approximately the following manner: A circumscribed area of the mucous membrane or wall of the stomach or adjacent duodenum, through malnutrition or necrosis, loses its normal resistance to the peptic action of the gastric juice and becomes digested. The resulting defect is an ulcer.

The recent work of Dr. E. C. Rosenow renders it probable that hematogenous bacterial (streptococcus) invasion is the most common factor in the production of the local malnutrition and necrosis. Undoubtedly, local defects of malnutrition and necrosis from whatever cause would practically always undergo rapid repair, without serious clinical symptoms, in the absence of gastric juice corrosion.

All present knowledge tends to substantiate the belief that has existed for many years, namely, that an ulcer of the stomach or duodenum would heal approximately as rapidly as an ulcer located elsewhere in the body, if its granulating surfaces were not subjected to the digestive action of the gastric juice.

The digestive action of the gastric juice is due to the solvent action of pepsin on albuminous substances that have been properly permeated by hydrochloric acid. Pepsin is practically inert in alkaline and neutral mediums. It acts slightly in the presence of a combined acid medium, but combined acids are incapable of preparing albumins properly for the action of pepsin. A free acid, such as hydrochloric acid, is required to permeate the albumin and prepare it for the full action of the peptic ferment. Pepsin exerts no appreciable solvent or digestive action on the raw and exposed surfaces of a gastric or duodenal ulcer in the absence of free hydrochloric acid.

The principle involved in the treatment advocated consists essentially in efficiently shielding the ulcer from the corrosive effect of the gastric juice. This is accomplished by maintaining an accurate neutralization of all free hydrochloric acid, thus rendering the digestive action of the gastric juice inert from 7 a. m. until about 10:30 p. m., or during the entire time that food and the accompanying secretion are present in the stomach. In addition, it is accurately determined whether an excessive night secretion is present. If so, this is removed each night until the irritability of the gastric glands has subsided. This applies almost entirely to cases of duodenal and pyloric ulcer that have been associated with stagnation of food and secretion for one or two months, and longer. Such cases almost invariably are attended by a more or less copious continued secretion during the night, which should be removed by aspiration two or three times each night, if necessary. Usually after three or four days of accurate control of free acidity the excessive night secretion disappears. Subsequently the normal quantity (about 10 c.c.) of gastric juice present in the stomach during the night is left undisturbed.

The neutralization of hydrochloric acid is accomplished by frequent feedings and the use of alkalies in carefully regulated but adequate quantities. Experience in applying the method to all types of individuals under widely varying conditions has abundantly demonstrated that the corrosive or digestive action of the gastric juice can be thus practically annulled until healing of the ulcer is accomplished. The conditions for the healing of peptic ulcer thus obtained are rendered as ideal as they can be made to be in the light of our present knowledge and understanding.

It will be impossible to give the details of the management in this paper. Briefly stated, the patient remains in bed for from three to four weeks. Unless some serious complication is present, some or all of

his regular work may be done at the end of four or five weeks. A wide variety of soft and palatable foods may be given. The following plan of diet has been found most adaptable: Three ounces of a mixture of equal parts milk and cream are given every hour from 7 a. m. until 7 p. m. After two or three days soft eggs and well-cooked cereals are gradually added, until at the end of about ten days the patient is receiving approximately the following nourishment: 3 ounces of the milk and cream mixture every hour from 7 a. m. until 7 p. m. In addition, three soft eggs, one at a time, and 9 ounces of a cereal, 3 ounces at one feeding, may be given each day. The cereal is measured after it is prepared.

Cream soups of various kinds, vegetable purées and other soft foods, may be substituted now and then, as desired. The total bulk at any one feeding while food is taken every hour should not exceed 6 ounces. Many of the feedings will not equal that quantity. The patient should be weighed. If desired, a sufficient quantity of food may be given to cause a gain of 2 or 3 pounds each week.

A large variety of soft and palatable foods may be used, such as jellies, marmalades, custards, creams, etc. The basis of the diet, however, should be milk, cream, eggs, cereals and vegetable purées. Lean meat is not given during the period of accurate observation, since it interferes with the tests for occult blood in the stool and aspirated stomach contents.

The acidity is more easily controlled by feeding every hour and giving the alkalies midway between feedings. The acidity may, however, be controlled by feeding every two, three and four hours. I have maintained complete control of the free hydrochloric acidity in several cases by feeding three times daily. In most cases, however, the plan of feeding every hour is best.[1]

It is only fair to state that the views expressed and the methods described[1] in 1911 were as radical as I then dared publish in a handbook for the use of practitioners. Since that time numerous slight modifications of procedure, some of which were then on trial and others of later development, have become thoroughly established in my practice.

The uncomfortable preliminary starvation period serves no purpose when the acidity is controlled and has, therefore, been entirely abandoned. Slightly larger doses of alkalies than were then advised were then being regularly employed. The practice of maintaining an absolutely accurate control of the free hydrochloric acidity during the entire time that food and the accompanying secretion are present in the stomach has become thoroughly established. This requires the administration of varying quantities of alkalies, corresponding to individual cases. Also, in addition to giving an alkaline powder midway between feedings, the powders are continued every half hour after the last feeding, until 10 p. m. In all cases of pyloric obstruction from duodenal and pyloric ulcer it has been found advisable to empty the stomach of all remaining food and secretion at about 10:30 p. m., thus removing the stimulus to an excessive night secretion. In most cases a short time after treatment is begun the stomach will be found empty at that time. The management of excessive night secretion has already been described.

Cases of stomach ulcer unassociated with stagnation of food and secretion are usually controlled by feeding every hour and giving a powder containing 10 grains each of heavy calcined magnesia and sodium bicarbonate, alternating with a powder containing 10 grains of bismuth subcarbonate and 20 or 30 grains of sodium bicarbonate, midway between feedings. Cases of pyloric and duodenal ulcer that have been associated with stagnation of food and secretion longer than two months almost invariably require larger quantities of alkalies.

Heavy calcined magnesia has approximately four times the neutralizing power of sodium bicarbonate. Since its neutralizing effect is prolonged compared with that of sodium bicarbonate, and for other reasons, calcined magnesia should be used between as many feedings as possible. An uncomfortable diarrhea usually prevents its exclusive use as a neutralizer. Other stable alkalies similar in action to calcined magnesia are being carefully tested.

In a few cases of duodenal ulcer with high grade obstruction it has required the equivalent of 100 grains of sodium bicarbonate every hour, midway between feedings, and three doses with intervals of one-half hour after the last feeding, at 7 or 8 p. m., to neutralize all the free hydrochloric acidity.

The average length of time that a patient with peptic ulcer should be under the accurate control and observation of the physician is about four weeks. During this period, if observations have been carefully and intelligently conducted, the finer points essential to a complete diagnosis of peptic ulcer, including such conditions and complications that may attend the ulcer, will have been determined, and the patient will have learned how to manage himself accurately. Thus the gratifying results to be obtained by the management advocated are secured.

It has been my experience that in the management of no other serious disease is it so easily possible to obtain the intelligent cooperation of all classes of patients. The reasons are probably of this nature: The things required of the patient during the after-management are straightforward and relatively simple; the sufferings of the patient before treatment have often been so severe that he usually requires no further stimulus to do his part. Fortunately, the most accurate cooperation is usually secured from patients who have long suffered from the obstructive type of duodenal or pyloric ulcer.

The nonobstructive type of gastric ulcer requires relatively little attention to details compared with the obstructive type of duodenal and pyloric ulcer. The dosage of alkali required to control the acidity is smaller, and it is seldom, if ever, necessary to remove the remaining food and secretion at bedtime.

Ideal conditions for the healing of peptic ulcer are maintained when the aspirated stomach contents show absence of free hydrochloric acid during the entire time that food and the accompanying secretion are present in the stomach, and all excessive night secretion is controlled.

Experience has shown that when the free acidity is found controlled late in the afternoon and just previous to taking the powders or feedings, the acidity is likely to be controlled at all other times during the feeding hours.

1. Further details relative to management may be found in my articles on Treatment of Gastric Ulcer, Pyloric Obstruction, etc., published in 1911 in Volume III, Handbook of Practical Treatment, edited by Musser and Kelly.

It is not difficult to determine the amount of alkali required between feedings to control accurately all free acidity. If not controlled the first few days by giving the usual amount, then the dose is gradually increased until the acidity is regularly found controlled.

It should be understood that the presence of free hydrochloric acid now and then for a few minutes each day does not seriously interfere with the healing of the ulcer. Such short periods during which corrosion of the ulcer may be possible are as nothing compared with the duration of corrosion to which duodenal and pyloric ulcers are subjected after gastro-enterostomy. In the ordinary surgical treatment of these conditions such ulcers are subjected to the corrosive action of the gastric juice during the whole period of normal stomach digestion, which occupies many hours each day. The majority of pyloric and duodenal ulcers treated by gastro-enterostomy show few symptoms after the operation, and such ulcers probably usually heal in the course of time, the same as the majority of the nonobstructive type of gastric ulcers usually heal without treatment. In either case, however, the conditions for healing are far from ideal.

As will be more clearly stated later, the symptoms of pyloric and duodenal ulcer after gastro-enterostomy and the symptoms of the usual nonobstructive type of gastric ulcer without treatment are approximately the same. Other things being equal, the conditions for healing are approximately the same. Both are subjected to the same duration of gastric juice corrosion. The very great tendency for peptic ulcer to heal, if the hindrance to healing is removed to only a moderate degree, is responsible for the recoveries that occur when gastro-enterostomy is performed for an ulcer located at the outlet of the stomach, causing stagnation of food and secretion.

While the symptoms may be controlled and healing accomplished in the majority of all cases of uncomplicated peptic ulcer by applying the usual or Leube type of medical management; while operative procedure successfully performed, such as gastro-enterostomy and pyloroplastic operations, may be infinitely superior to the Leube and other types of medical management in general use when applied to cases of pyloric obstruction, all types of medical and surgical treatment now in common use accomplish relatively little toward protecting the ulcer from gastric juice corrosion when compared with what may be easily, comfortably and safely accomplished by applying the accurate medical management which I have established and advocated.

In order that it may be known that the statements made in this paper are based on adequate clinical evidence, I feel justified in saying that at the Presbyterian Hospital I have under my medical management from twenty-five to thirty and more private cases of peptic ulcer at all times. Fully 70 per cent. of these cases are of the duodenal or pyloric type, presenting abnormal retention of food and secretion, varying from the slightest to the highest grades. The results obtained by such management are almost beyond belief.

Pyloric obstruction due to spasm of the pylorus, resulting in the retention of food and secretion from one meal to the next during the daytime, and until 3 or 4 o'clock in the morning, and even until the next morning at breakfast-time, disappears at once under the influence of such management.

Pyloric obstruction, even of the highest grade, and of long duration, as evidenced by the presence of vigorous peristaltic waves, showing through the abdominal wall, history of vomiting food eaten the day before for many months, the aspiration of food eaten twelve or more hours before, and the presence of abundant sarcinae, often rapidly disappears, so that at the end of ten days' or two weeks' management, seven hours after the largest and coarsest kind of a motor meal is given the stomach is found empty.

As unbelievable as it may seem, cases of duodenal ulcer recurrent for years, that have finally developed a high grade pyloric obstruction due to actual anatomic narrowing from indurated, infiltrated and edematous tissue, have yielded completely to the management.

The explanation for such astonishing results is probably as follows: The active more or less annular ulcer at the pyloric or duodenal outlet is embedded in edematous tissue infiltrated with round cells, and other products of inflammation of varying grades. Under the management advocated, the greatest hindrance to healing having been removed, healing and cicatrization of the ulcer begin more or less rapidly, the round cells and other exudative products disappear, the infiltrated tissue grows thinner in all directions, and when healing of the ulcer takes place, notwithstanding the tendency of scar tissue to contract, the opening through the pylorus or duodenum becomes gradually larger instead of smaller. Whatever the explanation, I have accumulated indisputable evidence that the size of the opening through the tissue that is causing the obstruction gradually becomes larger. Recorded observations of such cases now extend over a period of eight years. The early cases of pyloric obstruction due to actual tissue narrowing observed were treated thus medically instead of surgically, because other diseased conditions were present, rendering surgical intervention unusually hazardous.

As a result of the encouraging outcome in these cases, during the past four years, cases have been purposely selected for such investigative work. The results were so uniformly good that within the past two years a constantly increasing number of cases of that type have been treated thus by medical management, without being subjected to surgical operation. Up to the present time our experience is that none has failed to show that the obstruction yields in the course of a few weeks' or months' management, during all of which time, except the first four or five weeks, the patient is on his own responsibility, so far as treatment is concerned, and doing practically all his regular work.

Roentgen-ray studies of cases of pyloric obstruction after gastro-enterostomy have convinced me that very much the same thing occurs after gastro-enterostomy. As the ulcer heals, the food passes more and more through the pylorus. Since the conditions for healing of a pyloric or duodenal ulcer after gastro-enterostomy are not so favorable as they are under accurate medical management, as advocated, the opening up of the obstruction does not take place as rapidly, and perhaps not as completely.

In the light of all present knowledge, the development of granulation tissue leading to the healing and final cicatrization of peptic ulcer is promoted by a given type of medical or surgical treatment directly

proportionate to the influence exerted by that treatment on the duration and intensity of gastric juice corrosion.

The serious defect in the Leube, Lenharz and all other types of medical management, in general use the world over, lies in the lack of accurate knowledge of what is actually being accomplished while the patient is under treatment. As a rule, if pain and other symptoms are well controlled, no attempt is made to determine accurately how much, if any, the duration or intensity of gastric juice corrosion is reduced. Pain of ulcer may be entirely absent when the aspirated stomach contents show varying, even high, grades of free hydrochloric acidity. The peptic corrosion that occurs when a small quantity of free hydrochloric acid is present is approximately as great as when a high degree of free acidity exists. Unquestionably, the lack of accurate control of the free acidity of gastric secretion is responsible for such failures as occur when the various types of medical management in general use are applied to the treatment of peptic ulcer.

When death, jejunal ulcer and serious complications, the result of faulty technic, are excluded, the failures that occur when surgical treatment is applied are attributable to the same lack of efficient control of gastric juice corrosion. Gastro-enterostomy, when successfully performed, usually causes the stomach to empty itself of food and secretion in approximately normal time, but never appreciably earlier than the physiologic limit of normal time.

In 15 per cent. of a series of eighty cases tested by me after gastro-enterostomy, considerable food and secretion were recovered seven hours and as long as twelve hours after the ingestion of a motor meal consisting of ordinary food containing vegetables.

Ulcers of the stomach and duodenum are corroded as long as food and free hydrochloric acid secretion are present in the stomach. When gastro-enterostomy is performed for a duodenal or pyloric ulcer that is causing stagnation of food and secretion, the healing of the ulcer is benefited only proportionate to the number of minutes or hours that the duration of peptic corrosion is thereby reduced.

It must be remembered that after gastro-enterostomy, food and secretion continue to pass through the pylorus proportionate to the size of the opening that exists through the strictured area of the pylorus and duodenum. Only a small fraction of 1 per cent. of all cases of pyloric and duodenal ulcer for which gastro-enterostomy is now regularly performed are near the danger point of starvation because of the narrowness of the opening at the outlet. The average case has lost only moderately in weight. Such loss of weight as does occur is nearly always due to voluntary restrictions in diet because of pain, and not because the opening is actually narrowed to such a degree that sufficient nourishment is unable to pass through.

Any one sufficiently interested to study accurately cases after gastro-enterostomy by means of the Roentgen ray will easily demonstrate to himself that food and secretions are pushed through the pyloric orifice proportionate to the size of the opening at that outlet. When Roentgen-ray meal of the consistency of food is used, the musculature is seen to force the stomach contents against the pyloric outlet with such persistent vigor that none can doubt that the major portion of all food and secretion passes through the pyloric outlet within a short time after gastro-enterostomy is performed. In every case after gastro-enterostomy, unless the pylorus is occluded by operative procedure, a sufficient quantity of gastric juice is poured through the pyloric outlet to keep the ulcer constantly bathed in the corrosive secretion until the stomach has emptied itself of food and secretion.

A duodenal ulcer after gastro-enterostomy is placed in no more favorable conditions for healing than attend the usual untreated stomach ulcer located distant from the pylorus, or for other reasons unassociated with stagnation of food and secretion. The duration of corrosion in both instances equals that of the normal digestion period, which is several hours each day. The symptomatology of a duodenal ulcer after gastro-enterostomy is similar to that of the ordinary untreated stomach ulcer unassociated with stagnation of food and secretion.

That a duodenal ulcer treated by gastro-enterostomy usually heals in the course of time, and meanwhile is likely to cause but few serious symptoms, is consistent with the probable fact that the majority of stomach ulcers, located, as they are, on the lesser curvature or posterior wall and distant from the pylorus, usually give rise to few serious symptoms and heal without treatment.

Probably only such stomach ulcers as are located at or very near the pylorus, or that penetrate to or beyond the peritoneal coat, or become unusually large, or cause hemorrhage, or develop malignancy, produce serious symptoms.

If the commonly accepted conception of peptic ulcer is correct, namely, that the digestive action of the gastric juice constitutes the greatest hindrance to healing that is amenable to medical and surgical control, then it must follow that the healing of peptic ulcer is promoted most by that type of management which reduces to the greatest degree the duration and intensity of gastric juice corrosion.

No operative procedure as yet devised enables the stomach to empty itself of food and secretion appreciably earlier than normal time. Hence no operative procedure except excision of the ulcer or pyloric occlusion with gastro-enterostomy for duodenal and pyloric ulcer results in protecting a peptic ulcer from the corrosive effect of the gastric juice during the several hours each day occupied by normal stomach digestion. My experience has demonstrated beyond question that it is entirely possible and remarkably easy to exercise practically absolute control over peptic activity for many months, and, if necessary, for years.

The gratifying results to be obtained by applying the treatment or the principles involved in the treatment to cases ordinarily regarded as absolutely intractable to medical management, including such cases as gastro-enterostomy and other surgical procedure legitimately applied have failed to relieve, demonstrate that there can be no lack of incentive for the internist to develop a technic in the medical management of peptic ulcer that is as accurate and painstaking as that required of the surgeon in performing gastro-enterostomy or pyloroplastic operations.

In my service at the Presbyterian Hospital, surgical procedure in the treatment of peptic ulcer is limited to the following complications and conditions that attend ulcer:

1. Perforation.
2. Perigastric abscess.
3. Secondary carcinoma.

When, after careful study of the case, there is a reasonable reason for suspecting that a carcinoma is developing at the seat of an ulcer, if no contraindication exists, the ulcer-bearing area should be widely resected, with due regard to lymphatic distribution.

4. Hour-glass or other rare deformity of the stomach that is causing serious symptoms.

In very exceptional cases the history or Roentgen-ray examination may give evidence of a large, deep excavated ulcer, and justify an attempt to excise the ulcer, or perforate it with a cautery, and then lessen its size by suture.

5. Foci of infection about the roots of teeth, in the tonsils and elsewhere in the body are sought and removed.

Rosenow's contribution to the etiology of peptic ulcer is of the utmost importance relative to the recurrence of ulcer and the prophylactic treatment of the disease.

It is manifestly useless to talk about the end result of any form of treatment of peptic ulcer when the patient harbors an alveolar abscess. An abscess about the root of a tooth may be responsible for recurrences of ulcer extending over a period of years.

6. Hemorrhage of serious nature from peptic ulcer is a direct result of corrosion of blood vessels by the gastric juice. Such corrosion is impossible when the digestive action of the gastric juice is annulled by accurate medical management.

Since serious bleeding practically never occurs after the first week of medical management, as outlined, surgical treatment is considered only in connection with patients who are bleeding when first seen, or within the first week after treatment is begun.

The results of surgical intervention when instituted for the control of serious hemorrhage at the time it is occurring are admittedly not encouraging.

I have subjected relatively very few cases to surgical operation for the control of hemorrhage.

7. Pyloric obstruction of high grade due to actual cicatricial narrowing that fails, under the influence of accurate medical management, to yield sufficiently to allow a motor meal to pass in normal time.

Operative experience shows that of all cases of duodenal and pyloric ulcer presenting definite clinical evidence of obstruction at the outlet, less than 10 per cent. are found at operation to be associated with an actual tissue narrowing of serious grade.

I differentiate two clinical types of pyloric obstruction resulting from ulcer:

1. Pyloric obstruction due to conditions easily removable by two weeks of the accurate medical management advocated. More than 90 per cent. of all cases of pyloric obstruction due to ulcer are of this type.

2. Pyloric obstruction due to anatomic narrowing from infiltrated tissue, some of which may be cicatricial tissue in varying stages of development.

The probable cause of the first is pyloric spasm, inflammatory swelling, and at times, perhaps, a local peritonitis.

If at the end of two weeks of accurate medical management, during which the acidity is properly controlled both night and day, a full motor meal is given and 100 c.c. or more of food is found at the end of seven hours, an actual anatomic tissue narrowing exists, in practically all cases, unless nausea or some other condition is interfering temporarily with the motor power.

I formerly subjected such cases to gastro-enterostomy.[2] As previously stated, with reasons given, I am now convinced that unless the opening is so very narrow that death from starvation is threatened, the size of the opening will practically always increase—if both day and night corrosion is accurately controlled. Experience to date with the method has shown that as yet none has failed to open up sufficiently to allow the stomach to empty itself of a full meal in seven hours.

When the pyloric outlet is large enough to permit the stomach to empty itself of a full meal within the limit of normal time, it is useless to perform gastro-enterostomy for peptic ulcer at the pyloric outlet or elsewhere. When an ample pyloric outlet exists, the healing of peptic ulcer can be hastened only by such means as can bring about a reduction of the duration of gastric juice corrosion to a shorter period than that occupied by normal stomach digestion. No operative procedure accomplishes this except when a duodenal or pyloric ulcer is treated by gastro-enterostomy, combined with pyloric occlusion.

The medical management advocated accurately protects the pyloric and duodenal ulcer from gastric juice corrosion, and thus renders gastro-enterostomy combined with pyloric occlusion unnecessary. Gastro-enterostomy combined with pyloric occlusion is not without mortality when performed by those most expert. The mortality of such and all other operative procedures when performed by the rapidly increasing number of those who conscientiously attempt to imitate the expert is known best by those who through persistent endeavor have finally acquired a skill that is attended by a low mortality.

The medical management of peptic ulcer the world over is today practically the same as that advocated by Leube, Riegel and others of twenty-five years ago. Such medical management is efficient, to a certain degree. The general tendency for a peptic ulcer to heal if Nature is aided but slightly is responsible for the cures that can be brought about by it. The majority of all uncomplicated ulcers heal under its influence. No doubt many cases of duodenal ulcer can be cured by it.

If no more accurate means of medical management are at hand, surgical treatment has a very wide field of usefulness in the management of peptic ulcer. It may legitimately be applied only to such conditions and complications of peptic ulcer as are mechanically relievable or removable, and with reasonable safety to the patient.

The old and generally accepted belief that gastric juice corrosion is the most important influence that retards the healing of ulcer receives confirmation from the results that are obtained by all methods of treatment that have contributed to the healing of ulcer.

If the commonly accepted conception relative to gastric juice corrosion is correct, the number of cases of peptic ulcer now generally considered legitimately operable may be enormously reduced by the careful application of the method of medical treatment advocated.

The striking results to be obtained by applying the principle of accurately protecting the ulcer from

2. Musser and Kelly, iii.

gastric juice corrosion would seem to be the best evidence yet produced in substantiation of the old corrosion theory of peptic or digestive ulcer.

For the purpose of lessening the great confusion that has attended the problem relative to the treatment of peptic ulcer since the days of the first successful gastro-enterostomies, I recommend the application of earnest thought to the three fundamental questions, as stated in the beginning of this article. It is only by persistent effort directed toward a rational solution of these essential questions that the greatest progress in the treatment of peptic ulcer is to be attained:

1. What are the causes of peptic ulcer?
2. What retards or prevents the healing of peptic ulcer?
3. What can we as physicians and surgeons do to promote best the development of granulation tissue essential to the healing and final cicatrization of peptic ulcer?

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ACUTE LYMPHATIC LEUKEMIA

ON THE OCCURRENCE OF THE CORYNEBACTERIUM LYMPHOMATOSIS GRANULOMATOSAE *

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In 1910 Fraenkel and Much[1] pointed out that peculiar granular bacilli may be demonstrated in the glands of patients in cases of Hodgkin's disease by "reinforced" gram-staining. These bacilli, which closely resemble the granular type of the tubercle bacillus, like them are resistant to antiformin (alkaline hypochlorite solution). Unlike the latter, however, they are not acid-fast, and do not give rise to tuberculous lesions in laboratory animals. In their first communication the writers report on the presence of these organisms in twelve of thirteen cases, of which eleven were definitely known to be uncomplicated by tuberculosis. In a subsequent communication Fraenkel[2] states that he obtained corresponding findings in four additional cases. He concludes that Hodgkin's disease (lymphomatosis granulomatosa) is in all probability an infectious disease produced by the micro-organism in question, which may be related to, but is not identical with, the tubercle bacillus. Regarding the morphology of the organism the writers merely mention that it appears either in the form of isolated granules of variable size, or of granules joined together in bacillary form. They are gram-positive and are most conveniently demonstrated by antiforminizing the involved glands, and staining with Much's modification of Gram's method.

Cultures of the organism could not be obtained, nor was it possible satisfactorily to infect the common laboratory animals.

Subsequently the findings of Fraenkel and Much were confirmed by writers elsewhere, such as Meyer,[3] de Josselin de Jong,[4] Blumberg,[5] Jacobsthal,[6] Beumelburg[7] and others, so that at a meeting of the medical society of Hamburg on Jan. 2, 1912, Fraenkel[2] could announce that the organism in question had up to that date been demonstrated in more than thirty cases. None of the various observers, however, seems to have succeeded in growing it, and in his address of the date just mentioned Fraenkel himself says that notwithstanding every effort in that direction he had not yet succeeded in obtaining a pure culture.

This was first accomplished by Negri and Mieremet,[8] and to them we also owe the first detailed description of the organism. They remark on its pronounced pleomorphism which led them at first to doubt the purity of their culture, so that they resorted to Schauten's[9] method of isolating a single organism from which a pure culture was then obtained, in which the same variability in size and form was noted, as in the primary growths. The writers regard their organism as identical with that described by Fraenkel and Much, and classify it under the term "corynebacterium," on the basis of its segmented structure, the tending to clubbed or attenuated ends, as well as to true branching, besides the readiness with which it is stained with the usual dyes, while not being acid-fast.

It is interesting to note that the organisms obtained from the tissue were gram-positive, while in culture they were at times positive and at others negative. Analogous results were obtained in a second case.

Inoculation experiments in animals did not lead to any definite conclusions. Nevertheless the writers feel justified, in view of their own findings and those of the earlier investigations, in regarding the organism as the causative agent of Hodgkin's disease, and propose for it the name *Corynebacterium granulomatis maligni*. A search for corresponding antibodies in one of their patients, and in a third case, in which no bacteriologic examination had been possible led to negative results (complement fixation, agglutination, and cutaneous reaction).

Following Negri and Mieremet, positive cultural results were reported by Bunting and Yates[10] in three cases of Hodgkin's disease; in two others the organism was recognized, but not obtained in pure growth, while in a sixth case "a similar organism, morphologically, was stained in the lesions."

The results obtained from inoculation experiments (*Macacus rhesus*) have strengthened the idea that the organism is actually the causative agent of Hodgkin's disease. In one of their animals a chronic lymphadenitis was produced with a typical proliferation of the endothelial cells, beginning proliferation of the stroma

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10. Bunting, C. H., and Yates, J. L.: Cultural Results in Hodgkin's Disease, Arch. Int. Med., August, 1913, p. 236; An Etiologic Study of Hodgkin's Disease, THE JOURNAL A. M. A., Nov. 15, 1913, p. 1803.

tissue, marked eosinophilic infiltration and periglandular sclerosis.

Billings and Rosenow[11] reported confirmatory findings in twelve cases of Hodgkin's disease, in all of which the bacillus in question was isolated by culture from the lymph nodes, three times in pure culture, while in the remainder it appeared in conjunction with a staphylococcus.

Steele[12] then isolated the same organism apparently, not only from a case of Hodgkin's disease, but also from one of lymphatic leukemia. As the latter observation is especially significant, it may not be out of place briefly to recapitulate the clinical history of the case.

The patient, a boy, aged 12, had passed through an attack of measles at the age of 3, and had had an attack of toothache with swelling of the lymph glands two years preceding the development of his fatal malady. The latter began three weeks before admission to the hospital with a painless swelling on both sides of the neck, followed a week later by enlargement in both axillae and pain in the left upper abdomen. On admission (November 2) the spleen was found enlarged, as also the tonsils and the glands in the groin (palpable).

Blood examination, at this time, showed a leukocytosis of 65,800, of which 80 per cent. were lymphocytes, and 20 per cent. polynuclears. Following removal of the patient's tonsils and adenoids on November 5, the leukocytes on that day rose to 220,000, with 99 per cent. of lymphocytes, to fall on the following day to 1,800, of which only 42 per cent. were lymphocytes, while the polynuclears rose to 55 per cent. Coincident with this drop in the leukocytes there was a marked diminution in the size of the spleen, and diminution in the size of the lymph glands from the size of an egg to that of a bean.

About November 20, the lymph nodes again increased in size, the spleen again became palpable and the count rose to 9,000, with no change in the differential count, however, until November 28, when the total number rose to 236,000 with 80 per cent. of lymphocytes. Death occurred December 12, due to weakness and adenoid hemorrhage, the leukocyte count having previously risen to 298,000, of which 99 per cent. were lymphocytes. The entire course of the malady thus extended over approximately nine weeks.

Regarding the biologic characteristics of the organism, Steele says:

The bacterium was markedly pleomorphic. Most of the organisms resemble forms of the diphtheria bacillus, but some are short and coccoid. I have not observed any definite branching forms. Some take the stain uniformly, others stain in a granular manner, while still others take the stain more deeply at the ends. They stain by Gram's method, are not acid fast and are resistant to antiformin. They grow at first slowly, growth being first visible after five day's incubation. Transplants grow well on most of the ordinary culture media, but best in media rich in proteins. On agar and blood serum the lemon yellow fluorescence observed by Negri and Mieremet is particularly noticeable. On potato the growth appears in small isolated lemon yellow colonies. The growth in bouillon or ascitic bouillon is at first in adherent masses, although later the bouillon is somewhat cloudier. It grows in isolated yellow colonies in gelatin without liquefaction. It does not produce gas in glucose or lactose media.

PERSONAL OBSERVATIONS

Regarding our own observations the following note was made:

Our patient, a young man, aged 20, was referred to one of us (Simon) by Dr. McFarland of Clinton, N. Y. There was nothing of special note in his family or past personal history, beyond an attack of measles, shingles, and smallpox—the latter a year ago. About six weeks ago, he first noticed a painful swelling in the right axilla, which the attending physician took for a beginning abscess, as it was red, swollen, throbbing and very painful. Soon after, other glands began to enlarge, beginning with those in the back of the neck. On December 1, left facial paralysis developed, the glands about the angle of the jaw being at that time much enlarged. At this time examination of a blood smear by Dr. McFarland revealed the true nature of the malady. On admission to Mercy Hospital, December 5, the following note was made by Dr. Judd: The patient's general condition was quite good, though he was somewhat pale (hemoglobin 60 per cent.). The most striking features at that time were his facial paralysis and the marked enlargement of all his peripheral lymph glands. This was especially striking in the upper half of the anterior cervical triangle and in the axillary regions, while the inguinal glands, though considerably enlarged, seemed relatively discrete. Physical examination suggested enlargement of the anterior mediastinal glands. Spleen and liver were within normal limits. Here and there on the lower portion of both legs there was a slight punctiform, macular rash.

During the interval between his admission and death, which occurred on December 12, there was no rise of temperature, excepting on three occasions, when it rose to 99.8 100.2 and 101.1, respectively. There was a little nosebleed during the greater part of the time and this, indeed, had been noticed off and on during two or three months preceding the onset of the glandular enlargement.

Death was due to an internal hemorrhage, which began on the day preceding and was temporarily stayed by a transfusion.

The urine showed no special abnormality until the day of death, when a trace of albumin, and a few hyaline casts and a most extensive deposit of colorless uric acid crystals were noted.

VARIATION IN TOTAL AND DIFFERENTIAL BLOOD COUNT IN CASE OF ACUTE LYMPHATIC LEUKEMIA

Date	Total		Hgb.	Differential							Remarks
	R. B. C.	W. B. C.		Lymph.	L. M.	Polys.	Eosins.	Baso.	Platelets	Normoblasts	
			%	%	%	%	%	%		%	
12/ 6/14	.....	35,800	...	.....	....	....	....	...	.....	.....	Blood Wassermann negative.
12/ 7/14	4,700,000	37,000	60	86.33	1.33	11.6	0.66	0.0	Diminished	0.3	2.3% of W. B. C. showed Löwit bodies.
12/ 8/14	.....	.....	...	89.0	2.0	7.6	1.0	0.3	Diminished	0.6	0.3% of W. B. C. showed Löwit bodies.
12/ 9/14	4,560,000	57,500	...	92.0	3.0	4.0	1.0	0.0	Diminished greatly	0.0	2.0% of W. B. C. showed Löwit bodies.
12/10/14	.....	.....	...	90.3	2.6	7.0	0.0	0.0	Absent	0.0	0.3% neutrophilic myelocytes.
12/11/14	.....	.....	...	95.3	0.3	3.0	0.0	0.0	Absent	Occasional	1.6% of W. B. C. showed Löwit bodies.
12/12/14	4,500,000	75,500	60	91.0	2.3	6.0	0.3	0.3	Absent	Occasional	
12/13/14	3,900,000	75,500	60	95.3	2.3	1.6	0.3	0.0	Absent	0.3	2.6% of W. B. C. showed Löwit bodies
12/14/14	.....	.....	...	97.0	1.0	2.0	0.0	0.0	Absent	Absent	1.5% of W. B. C. showed Löwit bodies.
12/15/14	.....	.....	...	.....	....	....	....	...	.....	.....	Patient died.

11. Billings, Frank, and Rosenow, E. C.: The Etiology and Vaccine Treatment of Hodgkin's Disease, THE JOURNAL A. M. A., Dec. 13, 1913, p. 2122.

12. Steele, A. E.: Corynebacterium Hodgkini in Lymphatic Leukemia and Hodgkin's Disease, Boston Med. and Surg. Jour., 1914, clxx, 123.

Blood examination in this case revealed the typical picture of lymphatic leukemia with a large predominance of the ancestral form. Actual measurements on two occasions showed that only from 16 to 19 per cent. presented a diameter smaller than 8 microns, while in from 45 to 46 per cent. it varied between 8 and 10, and in from 35 to 37 per cent., between 10 and 15. The structure of the nucleus in almost all the cells corresponded to that of the typical lymphoidocyte. Löwit bodies were noted in from 0.3 to 2.6 per cent. of the leukocytes, and mitoses were fairly common. The variations in the total and the differential count are seen in the accompanying table.

The Wassermann reaction was negative.

Cultures from the blood remained sterile, but it was noted that the corpuscular mass at the bottom of the tubes gradually turned a chocolate brown, and that another tube charged with normal blood and citrated glucose bouillon, after inoculation from the original, underwent the same change (digestion due to liberation of ferment from the lymphocytes?).

BACTERIOLOGIC FINDINGS

Within one hour after death a group of enlarged glands was removed from the patient's right groin; fragments were planted on Löffler's blood serum, to which a small amount of hydrocele fluid had been added, and the entire surface was layered with white petroleum oil. No growth was observed until about the end of a week, when in two of the four inoculated tubes a small number of tiny silvery points appeared under the coal-oil layer which we first mistook for very fine air bubbles. After a few days, however, it became manifest that these tiny dots represented colonies of an organism, as they had increased in size and here and there coalesced. To secure as liberal a growth as possible the tubes were not disturbed until the expiration of a fortnight from the date of incubation, when smears were first prepared for microscopic examination. As stain we used a combination of Jenner with Giemsa, followed by differentiation in water for fifteen minutes. In this manner excellent pictures were obtained. Examined with a 1/12 oil-immersion lens the organisms were found arranged in smaller and larger groups composed of individuals of variable size and appearance, but generally characterized by their content of deeply staining granules. When only two were present in an organism and its body was but faintly stained or altogether invisible, the impression of a diplococcus was conveyed, but a careful study showed that the organism was after all a bacillus with a variable number of granules. Some of the organisms contained but a single granule located in one end, which was then as a rule more or less clubbed, while the other was markedly attenuated. In others two granules were seen in polar positions. In still others as many as five were counted, serially arranged, the largest at one end, the smallest at the other; in some of these the body of the organism could be distinguished, while in others the granules merely seemed to occupy a linear position. Bacilli without any granules were scant. In a great many, furthermore, the granules seemed fused into a conical body, giving rise to appearances resembling exclamation marks, which was further accentuated in some by the presence of a separate granule at or close to the apex.

While the length of the individual organisms varied considerably, namely, from 1.3 to 7 microns, the size of the granules differed even more markedly. Globular bodies were also seen in considerable numbers in our first cultures, whose diameter measured as much as 4 microns. At first we were at a complete loss how to regard these, but subsequent studies proved that they evidently represented enormously swollen organisms, since every transition could be established between the largest bodies and the smallest granules.

With the stain employed the bodies of the bacilli appeared light blue and the granules were intensely deep blue which was also true of the large globular bodies.

Generally speaking, the organisms were smallest in our young primary cultures, while in subsequent and old cultures they were for the most part larger, so that the body of the bacillus could be distinguished much more readily. In these preparations individuals with wavy outline and central granules could be distinguished.

While our primary cultures were obtained anaerobically, later observations showed that the organism also grew in the presence of air, and apparently quite as well. The individual colonies, especially those grown under oil for a couple of weeks and longer presented a waxy yellow appearance which is quite characteristic, and was also noted by Negri and Mieremet.

On plain agar a growth occurred in subcultures after from forty-eight to seventy-two hours, in the form of an exceedingly delicate film, in which, on microscopic examination, the organisms had almost altogether assumed the diplococcoid form, referred to above. When these were retransferred to Löffler's blood serum they assumed the forms described before. The large globular bodies were never seen in the agar growths. The individual colonies appear as little droplets, resembling fat. In litmus milk the organism grows quite well and at first does not seem to affect its reaction; but in old cultures a slight acid production can always be noted. In such cultures a white sediment appears which is canary yellow at the margin of the deposit.

In bouillon, growth takes place very slowly; a sediment gradually begins to form which on shaking rises into the clear supernatant fluid like the nubecula of the urine. After several weeks, however, the entire body of the fluid becomes turbid, and on shaking coarse conglomerates of bacilli may then be observed. Glucose, lactose, saccharose, mannite, and inulin are not fermented.

While we originally stained the organism with Jenner-Giemsa, followed by differentiation in water, and reached excellent results in this manner, satisfactory pictures may also be obtained with ordinary aqueous methylene blue. Its behavior to gram staining was variable. Generally speaking we received the impression that the granules tended to be gram-positive, while the bodies proper were gram-negative. Like other observers we found the organism non-acid fast.

Inoculation experiments with chickens, rabbits and guinea-pigs have thus far remained negative.

Histologic examination of one of the glands showed the typical picture of lymphatic leukemia; there was a generalized hyperplasia of the lymphocytic components of the gland with complete destruction of its normal configuration. Only at one or two points was there a suggestion of follicular remnants. The lymph sinuses and capillaries were filled with lymphocytes and the perivascular connective tissue densely infil-

trated with these cells. Giant cells and eosinophils were nowhere to be seen.

To sum up, then, we have a patient presenting the clinical picture of lymphatic leukemia of the acute type, from whose glands the same organism evidently could be isolated, which appears to occur so constantly in Hodgkin's disease. Since Steele found an organism of the same order in another case of lymphatic leukemia, which likewise appears to have been of the acute type (judging from the clinical history), this can hardly be a coincidence, and naturally raises the interesting question of a possible relationship between the two diseases. Remembering the very different pathologic picture of the two, the existence of such a relationship at first sight seems difficult to realize, and at this stage of our knowledge it would indeed be idle to speculate on the possibilities which suggest themselves. Further observations in acute as well as in chronic lymphatic leukemia are demanded, and most important of all, detailed inoculation experiments in monkeys.

THE TREATMENT OF CLOSED FRACTURES

A PLEA AGAINST UNNECESSARY OPERATIONS

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"The pendulum has swung too far in the direction of operative treatment of fractures" said Dr. W. B. Coley[1] of New York, last December, at the annual meeting of the Southern Surgical and Gynecological Association. This sentence shall be the motto of the present paper.

Because of some unsatisfactory results in the conservative methods, the operative treatment of fractures has gained some ground in the last decade, and has justly become the treatment of choice for a few types of fractures.

Unfortunately, many surgeons, following such extremists as Arbuthnot Lane, have attempted to operate on all fractures, without indications of any sort. This policy makes things much easier, of course; it does away with the study of anatomy and the study of the different types of fractures; the surgeon does not have to think any more, not even for the diagnosis, as this is given to him by the Roentgen rays; he does not have to think about the treatment as it is the same—plating in all cases; he just becomes a mechanic! When a ready-made treatment of this kind takes the place of thought and individuality in surgery, we may expect queer things to happen. We see many offenses against reason and common sense. There is the man who screws an enormous steel plate in the poor little ulna of a baby; the man so ignorant of the extension methods that he holds himself justified in plating the femur of a young child; the man who is in such a hurry to operate that he plates a fractured leg with doubtful circulation, to find out, four days later, that the limb is gangrenous and has to be amputated; and the man who plates everything in sight, even a Colles fracture! Think of this venerable fracture which has been known to the surgical profession for one hundred years! All during that century its treatment has been more and more simplified, so much so that Professor Lexer[2] now merely dresses this fracture with a flannel roller bandage! What would Colles say if he knew that there is a man who has hit on the brilliant idea of plating this inoffensive fracture?

It is not easy to fix the proportion of such indefensible and worthless interventions; I have to guess at a figure, but I have strong reasons to believe that about 80 per cent. of the operations now done in fracture cases are utterly unnecessary. Indeed, the vast majority would heal much better if left alone and if some busybodies would stop interfering with them. Jonas,[3] reviewing the operative treatment of fractures in 1910, asserts that many fractures plated according to Lane would do just as well without operation; and the same opinion is held by many surgical authorities.

These offenses against common sense, however, sad as they may be for all concerned, are nothing in comparison to the harm done to the patients in case of accidents, and these are by no means rare! The results of conservative methods were bad, we are told, but we have no hesitation in saying that the results of operations for fractures are often worse and sometimes distressing. It is, of course, much to the disadvantage of the conservative methods that a man with a crooked arm or a shortened leg will walk all his life as an opprobrium to the surgeon who has treated him, while the man operated on and dying of septic infection will join the silent majority and will never be heard of any more; and, of course, reports of these cases are not published. But if we listen to the conversations of assistants, nurses, relatives and patients, we hear on all sides many interesting stories of plate removals, endless suppurations, delayed union after plating, deformity in spite of plating, refractures, septic infections, etc., so that we feel justified in concluding that in many instances—well authenticated and well known to us—the operation done for a fracture was not only unnecessary, but was directly injurious to the patient.

Why must we be so cautious in this particular field of surgery, while, with the perfection of modern asepsis, we can confidently promise a healing by first intention in nearly all other clean cases? Because there are some dangers of a very special kind inherent in recent fractures which are not encountered in other aseptic conditions, and which must not be minimized and must not be ignored. These are, first, the well-known danger of infection so liable to invade all bruised and traumatized structures, and second, the deficient callus production which is the rule in the presence of a foreign body.

There is still a most undeniable danger of infection in fracture operations, even in the hands of the best surgeons: 1. The field of a recent fracture is an excellent culture medium. The bruised tissues, the fragments of bone denuded of periosteum and badly nourished, the hematoma, the impairment of circulation, all constitute the best possible conditions for the rapid growth of micro-organisms. 2. There is one source of infection that cannot be eliminated, even in the advanced stage of development of modern asepsis, and that is the skin of the patient. The hands of the surgeon cannot be incriminated because they are covered by sterile gloves and also because we do not touch

1. Coley, W. B.: In discussion on MacLean, H. S.: Modification of Lane's Plates, abstr., THE JOURNAL A. M. A., Jan. 23, 1915, p. 366.

2. Lexer, E.: Die Behandlung der Knochenbrüche, München. med. Wchnschr., March 23, 1909.

3. Jonas, A. F.: The Operative Treatment of Simple Fractures, THE JOURNAL A. M. A., Nov. 19, 1910, p. 1773.

anything in these operations even with the gloved finger; the instruments are boiled and absolutely sterile; but the skin of the patient, owing to the peculiar structure of the epidermis and of the skin glands, is and remains infected in spite of all disinfection methods. As we all know, the upper layers of the epidermis, and also its clefts and the ducts of the sebaceous and sweat glands, are normally the habitat of many micro-organisms. It is just the good luck of surgeons that these microbes are not virulent as a rule; but once in a while some pathogenic germs will be present among them, and when or where that will happen it is impossible to foresee. The surgeons have devised all sorts of methods to shut off this source of infection, which we may call endogenous infection. We use cloth clamps, fixing the sterile towels well inside of the incision with the idea of suppressing all communication between the skin and the interior of the wounds. Others recommend oil silk for the same purpose; others use a coating of a resinous substance to plug the opening of the skin glands; others rely on the action of antiseptics (tincture of iodin, tannic acid, alcohol, etc.,) to inhibit the vitality of the micro-organisms for some time at least, or possibly to close temporarily the openings of the glands. The opinion generally accepted now is that our disinfection of the skin is limited to the superficial layers of the epidermis, and that in the depth of the glands or in the clefts of the epidermic layers the life of the bacterial flora goes on just the same. The gynecologists have done some very good experimental work in this direction, and they have found that, a few hours after an aseptic operation, the neighborhood of the incision is full of micro-organisms.

It is easy to imagine that, in the course of an operation, the blood and serum oozing from the wound will necessarily moisten the surrounding sheets and towels, or the coating (if used) will soon become cracked at some point; and sooner or later, through the moist towels, a line of communication will be established between the interior of the wound and the infected secretion of the skin glands, and micro-organisms will be found in the wound. When this will take place in the course of an operation is difficult to say; probably the longer the operation, the greater the chance of this endogenous infection.

As proof that this danger is always present, we have the fact that sometimes a first-class man of scrupulous asepsis will occasionally get an infection after operating on a fracture. For this he will blame the hospital, the nurses, the catgut, the dressing, etc., or he may blame himself and forget that the only culprit is the patient, whose skin cannot be boiled. McGruder,[4] in his article on fractures, finds that many fatalities following fracture operations have been reported by experienced surgeons; Lemoyne Wills,[5] in a small series, reported two cases; Waterhouse[6] reports one personal case, and quotes two instances of fractures plated by great surgeons followed by infections, one ending in disarticulation of the shoulder, the other in disarticulation of the hip.

It is quite likely that a slight infection of the same kind (endogenous) takes place in all operations lasting a long time, in laparotomies, for instance, but a healthy organ with high power of resistance like the peritoneum always succeeds in destroying these few germs, while bruised and traumatized tissues will, on the contrary, be powerless against them.

This is the reason why such experiments as plating bones or cartilage, opening articulations to nail some fragments, etc., commonly done in animals with normal tissues full of vitality, cannot be accepted as conclusive for similar intervention in human beings whose tissues have been the seat of a severe trauma. I have read with interest the paper by Drs. Harry Sherman and Dudley Tait[7] on the subject, and I am also familiar with the work of my friend W. S. Handley[8] of London, suggesting the transarticular route for operations on certain fractures; but, although I fully appreciate the good pioneer work done by them in this direction, I am not quite convinced that joints which are bruised and the seats of fractures and hematoma in men will behave as nicely as the perfectly healthy joints of animals, which have more resistance to infection than man has anyway.

The second main danger arising from a fracture operation is the deficiency of the callus. As assistant in a busy surgical service taking care of a very large fracture material, Professor Roux' clinic in Lausanne, Switzerland, I saw exactly one case of nonunion in four years. But now, since so many fractures are being operated on, delayed union, nonunion, and absence of callus are surprisingly frequent occurrences. In many cases of accidental refractures of plated bones, the Roentgen rays have shown that the metal plate was the only support of a limb, and that hardly any callus formation had taken place even after several months. It seems certain, therefore, that the presence of a foreign body (plate screw, ivory peg, or whatever it may be) seriously interferes with the nutrition of the bone and exerts a sort of inhibition on the callus formation. McGruder[4] confirms our opinion that delayed union follows internal fixation. Stimson[9] concludes from the study of many roentgenograms that internal fixation apparatus (plates, foreign bodies, etc.) increase or prolong the preliminary rarefaction of the bone and that nonunion is frequent after their use.

Keeping in mind these dangers of operations of fractures, and remembering also the shortcomings of bloodless procedures, when shall we operate and when shall we not?

In my opinion, operation is indicated in recent fractures, when the surgeon, carefully weighing in his mind the advantages and the disadvantages of the two methods, finds that the prospects of a serious impairment of function are so great in a given case if treated conservatively as to outweigh the risks and dangers of an operation; especially when the conservative method has been tried in identical cases by many experienced surgeons of great reputation and of recognized authority, and has been found by most of them to yield only unsatisfactory results. We object to amateurs and dilettanti assuming the right to initiate operative measures in types of fractures which the majority of the great professional surgeons declare curable by bloodless methods.

4. McGruder: Am. Jour. Surg., 1914, xxviii, 1.
5. Wills, W. Lemoyne: In discussion on Martin, E. Denegre: A Plea for the More Careful Diagnosis and Treatment of Fractures of the Extremities, The Journal A. M. A., Dec. 18, 1909, p. 2073.
6. Waterhouse, H.: Brit. Med. Jour., July 9, 1910.
7. Sherman, Harry, and Tait, Dudley: Fractures Near Joints and Into Joints, Surg., Gynec. and Obst., August, 1914.
8. Handley, W. S.: Transarticular Route in Operation for Difficult Fractures of the Knee and Elbow, Brit. Med. Jour., Oct. 5, 1912.
9. Stimson: Treatise on Fractures and Dislocations, 1913.

A marked deformity in itself (if not attended by loss of function) is not an indication to operate (for example, a large callus on a clavicle, or a large callus on a femur without shortening). Nor is our wish to secure a good cosmetic result a sufficient reason to operate, nor the fact that the operation is easy: nothing is easier in the world than wiring or plating a bone that lies directly under the skin, such as the clavicle or the tibia, and that can be done so quickly that the risk of infection would probably be small. We know that, but it is our duty to refrain from doing such operations if we think that the same functional result can be attained without operation.

The preliminary report of the American Committee on Fractures[10] is entirely too favorable to operative procedures, and many of the fractures it would allow skilled surgeons to operate would heal just as well if properly treated by conservative methods.

It is a fundamental fact, accepted by all in fracture work, that a good anatomic reduction and fixation of the fragments is essential in order to obtain a good function of the limb. But this excellent principle has been carried *ad absurdum!* The friends of the operation *à outrance* want a bone to have exactly the same geometric outline as it had before the accident, while experience has proved conclusively (see Tuffier,[11] Scudder[12] and others) that in most cases this is not at all essential, and that a general good alignment of the fragments will give an excellent functional result even if there remains a slight lateral dislocation (in transverse fractures) or a slight overriding in oblique fractures. Yet many operations are undertaken not at all as a necessity, to insure good function, but simply and solely to satisfy the sense of anatomy and geometry of the surgical eye, and this cannot possibly be accepted as an indication.

If, then, conscious of the risks involved and of the great responsibility we assume when operating on recent fractures, we restrict such interventions to the cases in which they are clearly indicated, a change will come in the methods and in the results obtained. Instead of looking on the plating of fractures as an everyday procedure, which is crowded into a busy morning list at the hospital, between uterine curettements, adenoids, tonsils, circumcisions and other things of relative asepsis, the assistants and the personnel will come to look on a fracture operation as something rare, as an intervention of higher dignity, the preparation for and the conduct of which must be more solemn than that of a laparotomy, and whose consequences in a case of failure mean a disaster for the patient, and a blot on the reputation of the hospital and of the operator. The surgeon will devote more time to prepare himself thoroughly, so as to operate neatly and above all rapidly by the simplest and quickest method; not only will he follow the Lane technic, but also he will do all in his power to avoid the contamination of the bone surfaces by contact with the skin of the patient. The knife which has been used for the skin incision shall not be used for any other dissection; if the incision is too narrow and there is danger of the skin rubbing against the fragments of the bone, the surgeon will not hesitate to add lateral incision so as to divide the skin into flaps which can be better retracted and, if necessary, fixed out of the way by temporary stitches. He will always try to succeed with the most simple appliances and use the minimum of foreign material to insure fixation.

It is these and many other little details that count, and if fracture operations were carried out in this way, we could take their risk with confidence and recommend them to the patients with the conviction that we are fully justified in doing so.

I cannot conclude this paper without remarking on the steady improvement of the conservative methods in the last decade. Under the influence of Calot and other orthopedists, the making of a plaster cast has become a work of precision, exact and accurate in all details, so that it now yields much better results than formerly. The tendency to replace the circular plaster bandage by plaster splints, allowing early massage and movements, must also be hailed as a distinct step forward for many cases. Another great improvement is the much shorter immobilization of fractures of all bones which have not to bear weight, and also the general use of massage, with the understanding that, in fracture cases, massage should never be prescribed on a sheet of paper, like a drug, and left to a mechanical masseur, but should always be done by the surgeon himself, as early as possible and as long as necessary.

The greatest advance has been made in the technic of extension, especially by Bardenheuer[13] and Heusner, whose methods have taken the place of the old Buck and Volkmann extensions. It is the consensus of opinion in Europe that Bardenheuer's results are probably the best that have ever been obtained in fracture work by any method, and it is a matter of great surprise to me that his name should be so seldom mentioned here.

Robert Jones,[14] analyzing the Report of the Committee on Fractures of the British Medical Association in 1912, says that difference in good results in recent cases (79 per cent. with operations and 70 per cent. with the old conservative methods) is so small that it could easily be made up by the improvement of the old procedures, in which I heartily agree with him.

CONCLUSIONS

1. Operations on recent closed fractures, as they are done today—wholesale and indiscriminately—are utterly unnecessary in most cases. With Scudder, Stimson, Bevan, Murphy, Frank Martin, Matas, Ochsner, Lexer and others,[15] I hold that the vast majority of fractures do not require operations. Conservative methods must be given a trial in most instances, and will probably succeed in 90 per cent. of the cases.

2. Operations done on a large scale by chance operators or amateurs are responsible for a high percentage of bad results. (This is no wonder, and can be easily remedied if these men will let the fractures alone.) But what is of much greater importance and concern to us in the fact that first-class surgeons, operating on scientific indications and with unimpeachable asepsis (McGruder,[4] Waterhouse,[5] Lambotte, Lenoyne Wills[5]) have recorded instances of infection which illustrate the ever present danger of the endogenous

10. American Committee on Fractures: Preliminary Report, abst., Brit. Med. Jour., May 24, 1913.
11. Tuffier: French Surgical Congress, 1911.
12. Scudder, C. L.: Treatment of Fractures, with Notes upon a Few Common Dislocations, Philadelphia, W. B. Saunders Company, 1911.
13. Bardenheuer and Graessner: Technik der Extensionsverbande, 1909, p. 14.
14. Jones, Robert: Report of the Committee on Fractures, Brit. Med. Jour., Dec. 7, 1912. Report of the Committee on Fractures of the British Medical Association, 1912.
15. Tr. Am. Surg. Assn., 1911.

infection arising from the skin of the patient, a danger which no method of disinfection has succeeded in completely eliminating and which cannot be ignored, especially in view of the lowered vitality and resistance of the tissues resulting from violent trauma.

3. The presence of a foreign body (especially when large) interferes with the production of a good callus, and this is proved by roentgenoscopy (see Stimson[9] and others).

4. Operations must be reserved for really irreducible fractures, and even here (clavicle) only when actually needed, that is to say, when conservative methods have been found or are known on authority of many experienced surgeons to be powerless to insure good functional results.

5. If we have to operate, let us first have a special and elaborate preparation for an operation on recent fracture, as it should not be considered a part of the daily routine, but an intervention of great dignity, in a class by itself, which in regard to care and asepsis ranks next to a trephining operation and certainly above any laparotomy; and above all, let us operate rapidly so that the bruised and devitalized tissues may not have time to become the prey of the infectious germs which are always present in the epidermis of the patient, in spite of all our methods of disinfection. Let the intervention always be the very lightest that is compatible with a good result, as a simple incision with a few manipulations will often suffice to replace the fragments correctly (see Scudder,[12] Willems,[16] Keppler,[17] Bier,[17] Schlange,[17] Clairmont[17] and others). If an internal fixation apparatus has to be used, let us always employ the minimum of foreign material (Cotton,[18] Tuffier[11]), preferably a temporary silk or an absorbable suture (Stimson).

As to the best time for an operation (when indicated), the observations of the greatest authorities (Murphy, Trendelenburg, Lexer and others) have shown that after the first week has elapsed, much of the dead material (serum and hematoma) has been absorbed; at this time the bone and periosteum have begun to show signs of new life and proliferation, and are consequently in much better condition to defend themselves against infection. According to my views on trauma and infection, I shall not as a rule operate before the end of the first week, and cannot approve of the practice of operating the first or second day on the ground that it is easier; reduction by operation is just as easy after a week or so, and the risks of infection are considerably less.

516 Sutter Street.

16. Willems: French Surgical Congress, 1911.
17. Keppler: Die blutige Stellung schlecht stehender Frakturen, Deutsch. Ztschr. f. Chir., February, 1913.
18. Cotton, F. J.: Operative Treatment in Joint Fractures, The Journal A. M. A., July 20, 1912, p. 190.

Technic of Breast Feeding.—The young, inexperienced mother should be instructed in the most elementary details concerning nursing. She is shown how to retract the parenchyma of the breast from the nipple so that the infant's nose will not be buried in the mamma and respiration will not be constructed in this manner. If she trains the baby to grasp the areola as well as the nipple, the milk flows more freely and the nipple is less liable to be traumatized and rendered painful. The nipples should be kept scrupulously clean, and may be washed before nursing, using plain water; at least not strong antiseptics.—Isaac Abt, *Detroit Med. Jour.*, February, 1915.

MONGOLIAN IDIOCY AND SYPHILIS*

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The etiology of Mongolian idiocy is unknown. The various suggestions which have been made with regard to the causation of this peculiar form of infantilism remain as yet but tentative proposals. This paper is concerned with a discussion of but one of the proposed etiologies, namely, syphilis. The theories thus far propounded may be summarized as follows:

1. Mongolism is caused by maternal exhaustion, because the Mongolian children are usually the last of large families.

2. Mongolism is caused by pressure on the basal ganglia of the brain, in proof of which it is cited that (*a*) the anteroposterior diameter of the cranium is shorter than in normal children, (*b*) the occiput is usually flat, and (*c*) the weight of the medulla relative to the remainder of the brain is less than in normal brains.

3. Mongolism is caused by agenesia of the cortex cerebri, because (*a*) the cortex is thinner than in normal brains, and (*b*) the pyramidal cells are fewer in number and have fewer processes than do those of normal brains.

4. Mongolism is due to parental syphilis. This paper is concerned with the latter hypothesis. The suggestion of a connection between syphilis and mongolism was first made by Sutherland. Sutherland's conclusion and the observations on which it is based are worth quoting *in toto*.[1]

> It must be remembered that the characteristic features of mongolism are present at birth, and they are of such a nature as to suggest a causative agent at work from a very early period of fetal life. General causes, such as parental alcoholism, nervous disease or insanity in the family, are not likely to produce such an exact type of disease as exists in mongolism. It seems probable that one and the same cause is at work in all cases and that this is some disease that affects the fetus *ab ovo* and is directly inherited from one or both parents. Among such possible diseases tuberculosis has been suggested, but a parental history of that affection does not stand out prominently among my cases. On the other hand, I have been struck by the prevalence of hereditary syphilis. Out of a total of twenty-five cases syphilis was definitely present in eleven patients, and from the symptoms and history it was strongly suspected in three others. This is a large proportion, even allowing for the frequency of syphilis in infants, and my investigations among the earlier cases were not specially directed to this point, nor were the patients all seen at an age when the evidences of the disease would be pronounced. It has been suggested to me that mongolism may be syphilitic in origin, not an active manifestation of hereditary syphilis, but due to an arrested development of certain parts of the brain from disease in the germinal cell—a parasyphilitic condition. Among the parasyphilitic conditions to which Fournier has directed attention are delayed mental and physical development leading to imbecility and infantilism, and weakened vitality leading to early, and often sudden, death. These are also characteristic of the condition under discussion. Active syphilitic disease may in these cases be communicated during fetal life or it may not, and its absence can not be regarded as disproving the syphilitic origin of mongolism. The incidence of active syphilis in fetal life is followed by a succession of symptoms pointing to progressive disease. In mongolism, on the other hand, all the evidence indicates the existence

* From the Psychopathic Laboratory of the University of Chicago.
1. Sutherland, G. A.: Mongolian Imbecility in Infants, Practitioner, 1899, lxiii, 632.

of some factor leading to an arrest of development at a very early stage, without progressive disease. Further investigation is required to determine the exact etiologic factor, but I believe it will be found to be a definite parental disease and not a general degeneracy, and the association of parental syphilis and mongolism is sufficiently frequent to suggest a causal relationship (p. 641).

It will be noted that Sutherland's suggestion was made on the basis of clinical findings and the family history. With the discovery of the causal connection between the *Spirochaeta pallida* and syphilis, it is now possible to test the validity of Sutherland's hypothesis by new methods. These new methods are, (1) serologic tests of the blood serum and spinal fluid of mongols, and (2) the demonstration of the spirochetes in the nervous system and other organs of the mongols. As the results of the serologic tests are not conclusive, the final proof or disproof of the syphilitic hypothesis will have to rest on the histologic search for the spirochete in the nervous system or other organs of the mongols. Inasmuch as material of this sort is difficult to obtain, I have not yet been able to prosecute the latter research.

The diagnosis of mongolism depends entirely on the peculiar facial expression and the mental deficiency. Langdon Down's "ethnic" classification of aments[2] had little to justify it beyond the author's questionable theory that different races of the human stock represented and typified certain levels of intellectual and cultural attainment. His "Negroid," "Malay" and "American" idiots have long since been forgotten. His group of "Mongolians" has been verified and confirmed by all subsequent workers. The group is constant and typical; the name is characteristic.

Representative members of the group are undersized, bullet-headed, blepharitic, drooling, or tongue-sucking idiots, or low-grade imbeciles. The constant traits of the Mongolian physiognomy are the oblique palpebral fissures, the protruding, transversely fissured tongue, the brachycephalic head, the blepharitis, and a grimacing grin. Next to the head, the hands and the feet are most characteristic. The hands are unusually large, the fingers thick and blunt, with two typical features—the thumb, which is cut off obliquely, and the little finger, the second phalanx of which is abnormally short. The feet are thick, large and clumsy: Associated with these more constant characteristics, there are several variable pathologic traits commonly encountered. Strabismus is frequent. Cardiac lesions of sufficient severity to impair peripheral circulation and produce cyanosis and coldness of the extremities are very common. Spastic paralyses of the legs are seen in varying degrees. Pulmonary disease in the form of tuberculosis and bronchitis afflicts many of them. In disposition they are usually affectionate and tractable to the extent of their very limited intelligence. In behavior they are restless and grimacing. They are heavy on their feet and clumsy in the use of their hands.

The spinal fluid of twenty mongols has been examined. One reported examination from the literature is included in Table 1. General information about the material is given in the clinical summary. The serologic study included the Wassermann reaction on the blood serum and the spinal fluid; the cell count of the spinal fluid; the determination of the globulin content of the spinal fluid by the Ross-Jones, Nonne, and Noguchi methods; and the Lange gold chlorid test. The technic of the tests may be briefly outlined.

2. Down, J. L.: Observations on an Ethnic Classification of Idiots, London Hosp. Rep., 1866, iii, 259.

TECHNIC

1. *Wassermann Reaction.*—The Noguchi modification of the Wassermann reaction was used. The amboceptor titer was 0.001 c.c., which produced in twenty minutes complete hemolysis of 1 c.c. of a 1 per cent. suspension of human corpuscles in the presence of 0.05 c.c. guinea pig complement and 1 c.c. of 0.9 per cent. sodium chlorid solution. The antigen was the acetone insoluble extract of beef heart; 0.02 c.c. of a one-tenth dilution was effective in binding the complement in the presence of a positive syphilitic serum; 0.1 c.c. of a one-tenth dilution caused the first degree of inhibition of hemolysis in a negative serum. The antigen did not produce hemolysis in the absence of amboceptor and complement; 0.05 c.c. of fresh guinea pig serum was used for complement; 0.1 c.c. blood serum and an amount of spinal fluid varying from 0.4 c.c. to 1 c.c. were used in the tests.

2. *Cell Count.*—The cell count was made within two hours after drawing the spinal fluid. The diluting fluid was made of 50 per cent. glacial acetic acid and 50 per cent. Wright's stain. The Thoma-Zeiss counting chamber was used. All the cells in the ruled area of 9 square millimeters were counted. The calculation of the number of cells per cubic millimeter was made by multiplying the number of cells in the ruled area by 10/8. The fraction 10/8 is obtained from the correction of 10/9 for the dilution and the 10/9 for the 9/10 of a cubic millimeter, which is the cubic contents of the ruled area of the counting chamber.

3. *The Globulin Content.*—The globulin was determined by the Ross-Jones ring test,[3] the Nonne "Phase I" reaction and the Noguchi butyric acid test. For the Ross-Jones test a neutral, saturated solution of ammonium sulphate was used; 0.2 c.c. of clear spinal fluid was placed in a small test tube and an equal amount of ammonium sulphate placed under it with a capillary pipet. An excess of globulin is indicated by the appearance of a white ring at the line of junction of the two liquids. This test is said to be positive when a ring is observed. The Nonne "Phase I" reaction was obtained from the Ross-Jones test by mixing the two fluids after three minutes. An opalescent or flocculent precipitate was called positive. The Noguchi butyric acid test as described by Ellis and Swift[4] was used: 0.2 c.c. of spinal fluid was added to 0.5 c.c. of 10 per cent. butyric and heated to boiling; 0.1 c.c. of 4 per cent. sodium hydroxid was added. The reaction was gaged according to the scale proposed by Ellis and Swift:

—	opalescent to very faint haze.
±	faint haze to haze.
+	fine granular precipitate.
+ +	heavy granular or coarse flocculent.
+ + +	very heavy flocculent precipitate.

4. *The Lange Gold Chlorid Test.*[5]—The gold chlorid solution was made from double distilled commercial Hydrox water, which was double distilled in Jena glass before using. All glassware except the condenser was cleaned in 50 per cent. hydrochloric acid and sterilized with dry heat. For each 100 c.c. of water 1 c.c. of a 1 per cent. solution of gold chlorid, 1 c.c. of a 2 per cent. solution of potassium carbonate, and 1 c.c. of a 1 per cent. solution of 40 per cent. formaldehyd solution are required. In making the solution the water is heated uniformly to 58 C., when the required amount, according to the proportions just given, of gold chlorid and potassium carbonate are added. The solution is then heated as quickly as possible to 85 C., when the required amount of formaldehyd solution is added. Diffusion

3. Ross, G. W., and Jones, Ernest: On the Use of Certain New Chemical Tests in the Diagnosis of General Paralysis and Tabes, Brit. Med. Jour., 1909, i, 1113.

4. Ellis, Arthur W. M., and Swift, Homer F.: The Cerebrospinal Fluid in Syphilis, Jour. Exper. Med., 1913, xviii, 166.

5. The best published account of the preparation of materials for this test is given by Miller and Levy, The Colloidal Gold Reaction in the Cerebrospinal Fluid, Bull. Johns Hopkins Hosp., May, 1914, xxv, 133.

is facilitated by agitation of the vessel and its contents. A suitable gold chlorid solution should be red in color, with a tint of orange to it, clear to both transmitted and reflected light, and it should not precipitate on standing. In performing the test on a spinal fluid ten dilutions in 0.4 per cent. sodium chlorid solution are made. The dilutions are 1/10; 1/20; 1/40; 1/80; 1/160; 1/320; 1/640; 1/1280; 1/2560; 1/5120. In Table 1 under the caption "Gold Chlorid" these dilutions in order are indicated by the figures 1, 2, 3, etc. A positive reaction is a change in the color of the solution caused by the precipitation of a part of the colloidal gold chlorid. Usage varies with regard to the number of color changes which are distinguished. Lange[6] in his original article distinguished eight colors: Roth (0), the original color of the unchanged gold chlorid, Rothblau (1), Blauroth (2), Violet (3), Dunkelblau (4), Hellblau (5), Weissblau (6), and Farblos (7). Miller and Levy distinguish

RESULTS OF EXAMINATION OF BLOOD AND SPINAL FLUID IN MONGOLIAN IDIOTS

Case No.	W. R. Blood	Cerebrospinal Fluid													
		W. R.	Cells	Globulin											
				Ross-Jones	Nonne	Noguchi	1	2	3	4	5	6	7	8	9	10
1	Negative	Negative	2	+	+	+	2	4	4	3	2	0	0	0	0	0
2	Negative	Negative	2	+	+	+	1	1	1	2	3	1	0	0	0	0
3	Negative	Negative	*	+	+	±	1	1	1	1	0	0	0	0	0	0
4	Negative	+?	1	+	+	+	1	2	2	2	1	0	0	0	0	0
5	Anti-comp.	Negative	1	+	+	+	1	2	3	3	3	2	1	0	0	0
6	Negative	Negative	6	+	+	+	0	1	2	4	5	5	2	0	0	0
7	Negative	Negative	8	+	+	+	2	3	3	3	3	2	1	0	0	0
8	Negative	+?	3	+	+	+	1	1	1	0	0	0	0	0	0	0
9	Negative	Negative	1	+	+	+	1	1	2	2	2	0	0	0	0	0
10	Negative	Negative	1	+	+	+	0	1	1	1	0	0	0	0	0	0
11	Negative	Negative	1	+	+	+	1	1	2	3	2	1	0	0	0	0
12	Negative	++	23	+	+	+	0	1	2	2	1	0	0	0	0	0
13	Anti-comp.	+++	*	+	+	+	1	2	3	3	2	1	0	0	0	0
14	+++	++	7	+	+	+	1	2	3	3	2	1	0	0	0	0
15	Not made	+++	16	+	+	++	1	3	3	4	3	1	0	0	0	0
16	+++	+++	0	+	+	++	2	3	4	4	3	0	0	0	0	0
17	Not made	Negative	1	+	+	−	1	1	2	3	2	0	0	0	0	0
18	Not made	Negative	1	+	+	±	1	2	3	3	1	0	0	0	0	0
19†	Not made	Negative	14	−	−	+	1	1	1	0	0	0	0	0	0	0
20‡	Not made	Negative	11	−	−	**	1	1	1	2	2	0	0	0	0	0
21	+	Negative	1	+	..	..	2	3	3	2	1	1	0	0	0	0

* Not counted.
** Not made.
† Father known syphilitic.
‡ Brother of Case 19; father known syphilitic.

five color changes. I have followed Lange. The numbers indicate the extent of the color change in the corresponding tube.

The results are shown in Table 1. Case 21 is taken from the article of Miller and Levy.[7] This case is not taken into account in the percentages which are given. The conclusions to be drawn from this work are:

1. The Wassermann reaction on the blood serum of Mongolian idiots was positive in 10 per cent. (2 in 20) of the cases.

2. The Wassermann reaction on the spinal fluid was undoubtedly positive in 25 per cent. (5 in 20) of the cases. The Wassermann reaction on two fluids was doubtful. The gold chlorid reactions of these two fluids, Case 3 and Case 8, do not show typical luetic changes.

3. Pleocytosis was present in 20 per cent. (4 in 20) of the cases.

4. The globulin content was increased in 90 per cent. (18 in 20) of the cases.

5. The gold chlorid reaction shows color changes of two or more degrees in 90 per cent. (18 in 20) of the cases.

6. The color changes of the gold chlorid are in the luetic zone.

7. The father of Case 19 and Case 20 is known to have syphilis at present. This infection was acquired before his marriage. One child born dead preceded the two Mongolian children. The only abnormality in the spinal fluid of the children is the pleocytosis and the questionable Lange reaction in Case 20.

8. The globulin content and the gold chlorid reaction parallel each other.

6. Lange: Ueber die Ausflockung von Goldsol durch Liquor Cerebros Spinalis, Berl. med. Wchnschr., May 6, 1912, No. 19, p. 897.

7. See Note 5. Referred to in their article as a mongoloid idiot. M (70). Note that the Wassermann reaction on the spinal fluid is negative. The Lange is positive; globulin is positive; cells and Wassermann reaction on blood serum positive.

CLINICAL SUMMARY OF THE CASES

Case 1.—Lincoln State School and Colony. Female. Age 15 years. Mental age by the Binet-Simon test, 4 years. General facial appearance is that of a typical mongol. The pupillary reactions to light and accommodation are slow. Convergent strabismus. Few small corneal opacities. Chronic blepharitis and conjunctivitis. Tongue with well marked transverse fissures. Hands short and stubby. No obvious paralysis of limbs. Reflexes: biceps normal; triceps normal; umbilical normal; patellar equal, but lively; plantar normal; tendo achillis normal; Gordon, Oppenheim and Chaddock negative. No hernia. Cyanosis of the extremities. Subject to chronic bronchitis. Skin dry. Lumbar puncture, Jan. 30, 1915: 4 c.c. clear spinal fluid withdrawn. Pressure moderate. Blood for Wassermann reaction.

Case 2.—Lincoln State School and Colony. Female. Age 14 years. Mental age by the Binet-Simon test, 4⅘ years. The pupils react to light and accommodation. They are round and equal in size. Slight convergent strabismus. No corneal opacities. No blepharitis. Tongue slightly fissured transversely. Hands are broad and short. No paralysis. The biceps reflex is normal, as is the triceps and umbilical. Patellar reflexes are equal on both sides and normal in amount. Plantar reflex normal. Tendo achillis normal. Oppenheim, Gordon and Chaddock are negative. There is no hernia or cardiac lesion. Probably incipient tuberculosis in the apices of the lungs. Skin dry. Lumbar puncture, Jan. 30, 1915: 5 c.c. clear fluid withdrawn. Blood was taken for Wassermann reaction.

Case 3.—Lincoln State School and Colony. Female. Age 7½ years. Mental age by the Binet-Simon test, 3 years. The pupillary reactions to light and accommodation are normal. There is no strabismus or opacity of the cornea. Chronic conjunctivitis and blepharitis marginalis. Marked transverse fissuring of tongue. Hands are thick, broad and short. Uses left hand more than right. No other evidence of paralysis. Biceps and triceps reflexes could not be elicited. Umbilical reflex normal. Right patellar reflex sluggish; left patellar reflex normal. Tendo achillis and plantar reflexes normal. Oppenheim, Gordon and Chaddock negative. No hernia. No cardiac lesion or abnormality in the lungs. Skin is dry. Lumbar puncture, Jan. 30, 1915: 4 c.c. fluid withdrawn. Blood in the first tube. Blood for Wassermann reaction.

Case 4.—Lincoln State School and Colony. Female. 20 years of age. Mental age by Binet-Simon test, 4 years. The pupils react normally to light and accommodation. Slight convergent strabismus. No opacities of cornea. Chronic blepharitis marginalis and very severe chronic conjunctivitis. Marked transverse fissuring of the tongue. Hands are thick, broad and short. No paralysis. Biceps and triceps reflexes are exaggerated. Plantar reflex is normal. Umbilical reflex is normal. Patellar reflexes are exaggerated. Tendo achillis is lively. Oppenheim, Gordon and Chaddock are negative. There is no hernia, cardiac or pulmonary lesion. Skin is dry. Lumbar puncture, Jan. 30, 1915: 4 c.c. clear fluid were withdrawn. Blood for Wassermann reaction.

Case 5:—Lincoln State School and Colony. Female. Age 22 years. Mental age by the Binet-Simon test, 4 years. Pupils react normally to light and accommodation. Con-

vergent strabismus. No corneal opacity. Chronic conjunctivitis and blepharitis marginalis. Tongue is fissured transversely. Hands are thick, broad and short. No paralysis, but gait is shuffling. Biceps, triceps and umbilical reflexes are normal. Patellar reflexes are lively on both sides and especially on the left. The plantar and tendo achillis are normal. Oppenheim, Gordon and Chaddock are negative. There is no hernia. Aortic regurgitation; capillary pulse; waterhammer pulse. Roughened breath sounds on both sides. Skin dry. Lumbar puncture, Jan. 30, 1915: 4 c.c. clear fluid withdrawn. Blood for Wassermann reaction.

CASE 6.—Lincoln State School and Colony. Male. Age 18 years. Mental age by the Binet-Simon test, 3 years. Pupillary reactions are normal to light and accommodation. No strabismus and no corneal opacities. Blepharitis marginalis. Slight transverse fissuring of the tongue. Hands are thick, short and stubby. Shuffling gait. Biceps and triceps are normal, but active. Umbilical and cremasteric reflexes normal. Patellar reflexes are exaggerated, but equal on both sides. Plantar and tendo achillis are normal. Chaddock, Oppenheim and Gordon are negative. No hernia. No cardiac lesion. No pulmonary abnormality. Skin dry. Lumbar puncture, Jan. 29, 1915: 4 c.c. clear fluid withdrawn. Blood for Wassermann reaction.

CASE 7.—Lincoln State School and Colony. Male. Age 12½ years. Mental age by the Binet-Simon test, 2 years. Pupillary reactions are normal to light and accommodation. There is no strabismus or corneal opacity. No blepharitis. Marked transverse fissuring of tongue. Hands are broad and stubby. No paralysis. Biceps, triceps, umbilical, cremasteric, patellar, plantar, and tendo achillis are normal. Gordon, Oppenheim and Chaddock are negative. No hernia. Second pulmonic tone accentuated. Roughened breath sounds in both apices. Lumbar puncture, Jan. 29, 1915: 5 c.c. clear fluid withdrawn. Blood for Wassermann reaction.

CASE 8.—Lincoln State School and Colony. Male, 12 years of age. Mental age as determined by the Binet-Simon test, 1 year. Pupillary reactions to light and accommodation are normal. Convergent strabismus. No corneal opacities. Chronic blepharitis marginalis and chronic conjunctivitis. Tongue is fissured transversely. Hands are broad and short. No paralysis. Biceps and triceps reflexes are normal. The umbilical and cremasteric are normal. The patellar, plantar, and tendo achillis are normal. The Oppenheim, Gordon and Chaddock are negative. No hernia. No cardiac or pulmonary abnormality. Lumbar puncture, Jan 29, 1915: 5 c.c. clear fluid withdrawn. Blood for the Wassermann reaction.

CASE 9.—Lincoln State School and Colony. Male. Age 27 years. Mental age by the Binet-Simon scale, 5 years. Pupillary reactions to light and accommodation are normal. No strabismus. No corneal opacities. Chronic conjunctivitis. Tongue is fissured transversely. Hands are broad and short. No paralysis. Biceps and triceps reflexes normal. Umbilical and cremasteric normal. Patellar reflexes lively. Plantar and tendo achillis normal. Oppenheim, Gordon and Chaddock negative. No hernia. No cardiac lesion. Chronic bronchitis. Skin dry. Lumbar puncture, Jan. 29, 1915: 4 c.c. clear fluid withdrawn. Blood for Wassermann reaction.

CASE 10.—Lincoln State School and Colony. Male, 29 years of age. Mental age as determined by the Binet-Simon test, 4 years. Pupillary reactions to light and accommodation are normal. Convergent strabismus. No corneal opacities. Chronic conjunctivitis. Tongue slightly fissured. Hands broad and thick. No paralysis. Biceps and triceps reflexes normal. Umbilical and cremasteric normal. Patellar reflexes lively. Plantar and tendo achillis normal. Oppenheim, Gordon and Chaddock negative. No hernia. No cardiac or demonstrable pulmonary lesion. Skin dry. Lumbar puncture, Jan. 29, 1915: 5 c.c. clear fluid withdrawn. Blood for Wassermann reaction.

CASE 11.—Lincoln State School and Colony. Male. Age 10 years. Mental age according to the Binet-Simon test, 1 year. Pupillary reactions to light and accommodation are normal. Slight convergent strabismus. Small opacity of cornea of right eye. Chronic conjunctivitis. Marked transverse fissures of tongue. Hands are broad, short, thick. No paralysis. Biceps, triceps, umbilical, cremasteric, patellar, tendo achillis, and plantar reflexes are normal. Chaddock, Oppenheim and Gordon are negative. No hernia. No cardiac lesion. Pulmonary tuberculosis. Skin is dry. Lumbar puncture, Jan. 29, 1915: 4 c.c. clear fluid withdrawn. Blood taken for the Wassermann reaction.

CASE 12.—Lincoln State School and Colony. Male, 27 years of age. Mental age as determined by the Binet-Simon test, 5 years. Pupillary reactions to light and accommodation are normal. No strabismus. No corneal opacity. No blepharitis or conjunctivitis. Tongue is fissured transversely. Hands are broad, short and thick. No paralysis. Biceps and triceps are normal. Umbilical reflex is normal. Cremasteric reflex is slow. Patellar reflex is active. Plantar and tendo achillis are normal. Oppenheim, Gordon and Chaddock are negative. No hernia. No cardiac or pulmonary lesion. Lumbar puncture, Jan. 29, 1915: 4 c.c. fluid withdrawn. Blood taken for Wassermann reaction.

CASE 13.—Lincoln State School and Colony. Male. Age 15½ years. Mental age as determined by the Binet-Simon scale, 4 years. Pupils react to light and accommodation. Divergent strabismus. No corneal opacity. Chronic conjunctivitis. Slight transverse fissuring of tongue. Hands are thick, short and broad. No paralysis. Biceps and triceps normal. Umbilical, cremasteric, patellar and tendo achillis normal. Oppenheim, Gordon and Chaddock negative. Umbilical hernia. Mitral regurgitation. Chronic bronchitis. Dry skin. Lumbar puncture, Jan. 29, 1915: 6 c.c. spinal fluid withdrawn. There was blood in the first tube. Blood for the Wassermann reaction.

CASE 14.—Psychopathic Laboratory, University of Chicago. Female Jew. Age 9 years. Mental age as determined by the Binet-Simon test, 3 years. Born at full term; weighed 9 pounds. Teeth came late. Walked at 4 years. Began to talk at 4 years. Had convulsions in infancy. Pneumonia at 4 years. Measles at 5 years. Scarlet fever at 7 years. Chronic bronchitis every winter. Cephalic index 80.9. Weight 18.8 kg. (Normal for her age 23.9 kg.) Height sitting 62.8 cm. (Normal for her age 68.32 cm.) Height standing 113.1 cm. (Normal for her age 125.24 cm.) Pupils are round, equal, react to light and accommodation. No strabismus. Tongue deviates slightly to the left, is fissured transversely. Epitrochlear gland on left side palpable. Heart tones are negative. Breath sounds are rough. Umbilical hernia. Biceps and triceps are lively. Umbilical normal. Patellar reflexes normal. Plantar, tendo achillis normal. Oppenheim, Gordon and Chaddock normal. Hands are short and broad. Thumb cut off obliquely. Hemoglobin 90 per cent. Lumbar puncture, June 16, 1914: 6 c.c. fluid withdrawn. Blood taken from arm for Wassermann reaction.

CASE 15.—Psychopathic Laboratory, University of Chicago. Male. Age 10 years. Mental age not determined by Binet-Simon test. Patient is the fourth child of a family of eight children. Opacity of cornea of right eye. Tongue broad, fissured transversely. Brachycephalic. Occiput flat. Hands thick and broad. Thumb cut off obliquely. No cardiac lesion. Lumbar puncture, June 23, 1914: 8 c.c. clear fluid withdrawn. No blood was taken for Wassermann reaction.

CASE 16.—Central Free Dispensary. No. 85515. Rush Medical College. Male. Age 15 years. Mental age not determined by Binet-Simon test. Uses few words, such as "Ma," "Pa," "Yes." Has never used sentences. Blepharitis marginalis. Old keratitis with central opacities of both corneas. Strabismus. Kyphoscoliosis. Head asymmetrical and short in anteropostero diameter. Knee jerks decreased. No record of other reflexes. Lumbar puncture, May 19, 1914: 6 c.c. clear fluid withdrawn. Blood taken for Wassermann reaction.

CASE 17.—Oak Forest Infirmary, Oak Forest, Ill. Female, 2½ years. Spastic paralysis of legs and arms. Does not talk. Extremities cold and cyanotic. Lumbar puncture, Nov. 11, 1914: 4 c.c. clear fluid withdrawn. Blood not taken for Wassermann reaction.

CASE 18.—Oak Forest Infirmary, Oak Forest, Ill. Male, aged 7 years. Spastic paralysis. Lumbar puncture, Nov. 11, 1914: 4 c.c. clear fluid withdrawn. Blood not taken for Wassermann reaction.

CASE 19.—Psychopathic Laboratory, University of Chicago. Male, 8 years of age. Mental age as determined by the Binet-Simon test, 3 years. Cephalic index .82. Weight at birth 3 pounds. Double hernia at birth. Convulsions at 3 years. Anisocoria. Strabismus. Heart and lungs negative. Testes not present in scrotum. Triceps and biceps reflexes were not elicited. Abdominal and cremasteric reflexes absent. Very awkward in use of limbs. Very restless and occasional rigors. Typical mongolian thumb. Skin rough. Lumbar puncture by Dr. Peter Bassoe, Presbyterian Hospital, Jan. 23, 1914: 6 c.c. clear fluid withdrawn.

CASE 20.—Presbyterian Hospital, Chicago. Male, 6 years of age. Brother of Case 19. Mental age not determined. Very restless, irritable. Drools continually. Lumbar puncture by Dr. Peter Bassoe, Presbyterian Hospital, Jan. 23, 1914: 6 c.c. clear fluid withdrawn. Father known to have syphilis which was acquired before marriage. One child born dead preceded the two mongolians.

POLYDACTYLISM AS A HEREDITARY CHARACTER *

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Polydactylism is the occurrence of more than the normal number of digits on either the hands or feet. Usually there is but one extra finger or toe, but a

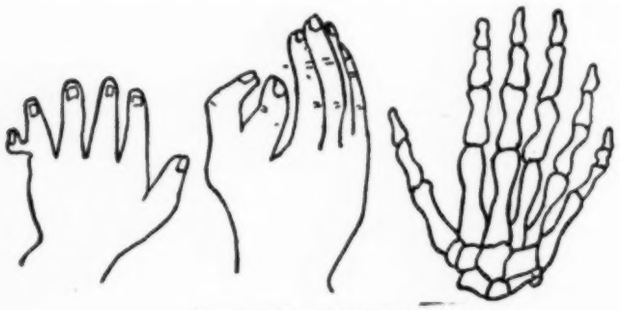

Fig. 1.—After Annandale.

far greater number have been reported; for example, one case with thirteen fingers on each hand and twelve toes on each foot, a number of cases with ten fingers and various others varying in the number of supernumerary digits down to one. All sorts of combinations may exist as to whether a single hand or foot is affected or a foot and a hand, etc.

Such a member may be rudimentary, in which case it usually amounts to little more than a fleshy tumor growing out from the side of the finger or toe to which it is attached, or else a well-developed digit having completely developed phalanges and muscles, articulating with the head or side of the metacarpal bone or phalanx of the normal digit to which it is attached. Not infrequently such a supernumerary digit has a separate metacarpal bone of its own which articulates with the bones of the carpus. Figure 1 illustrates the several forms.

Polydactylism is not a rare anomaly, and the following two cases occurring in one family are reported merely because they appear as a feature in an interesting family tree which exhibits clearly the hereditary nature of this trait.

R. W., aged 30 months, and M. W., aged 16 months, are sister and brother and only children. R. W. exhibits, at present, five fingers on each hand, but at birth she had an extra little finger on each which, though fairly well developed, were removed. She has six good toes on each foot; there are only five metatarsal bones, the extra toe, in each instance, articulating with the head of the metatarsal bone of the fifth toe. The second and third toes of each foot are partially webbed.

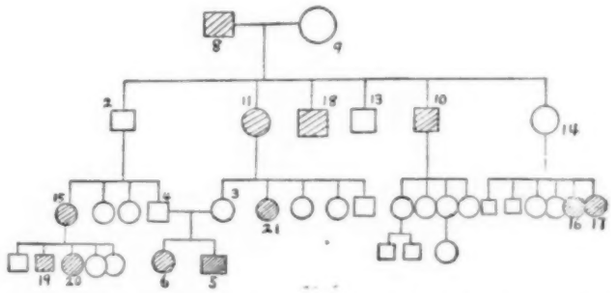

Fig. 2.—Squares indicate males. Circles indicate females. Shaded areas indicate affected persons.

6 had six fingers on each hand, fairly developed, articulating with fifth metacarpal bones; the extra fingers were removed. Has six good toes on each foot; five metatarsal bones, extra toes articulating with head of fifth metatarsal bone. Second and third toes partially webbed on each foot.

5 has six perfect fingers on each hand; six metacarpal bones on each hand; six perfect toes on each foot; five metatarsal bones in each foot.

8: Six fingers on each hand.
10: Six fingers on one hand.
11: Six fingers on one hand.
18: six fingers on each hand and six toes on each foot.
16: Six fingers on one hand.
17: Six fingers on one hand.
15. Six fingers on each hand, both rudimentary and removed. Has still a sixth toe on left foot, fairly good, articulating with head of fifth metatarsal bone.
20: Six fingers on right hand, very rudimentary and warty growth at head of the fifth metacarpal bone of left hand.
19: Exactly the same condition as 20.
21: Six fingers left hand, very rudimentary.

In all cases the supernumerary finger or toe is respectively ulnar or peroneal in disposition.

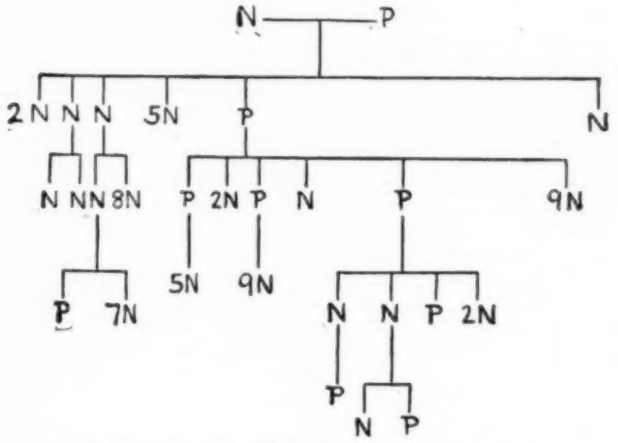

Fig. 3.—Struthers, July, 1863. *N* = normal; *P*, polydactyl.

M. W., aged 16 months, presents six perfect fingers on each hand, each having six metacarpal bones; he has also six very good toes on each foot, but only five metatarsal bones, the extra toe articulating with the head of the metatarsal bone of the fifth toe on each side.

Examination of the parents reveals neither extra fingers or toes nor evidence of such having ever existed. But the important fact, bearing on the present discussion, that the parents are first cousins is elicited. Reference to the chart of the family tree

* Read before the Harlem Medical Association, City of New York, May 5, 1915.

(Fig. 2) will serve to show which members of the stock exhibit the anomaly.

Before proceeding to a discussion of the chart and what deductions may be made from it, it may be well to review such of the essential features of the mendelian scheme of inheritance as bear some relation to the series under consideration.

The first proposition is that an inheritable character such as color, hair length or the number of digits may be labeled as either dominant or recessive according as it declares itself or else recedes from view in the offspring. For instance, in the mating of a pure black guinea pig with a pure white one, the offspring are all black, black color being dominant over white; or in the mating of horned animals with hornless, the offspring exhibit the hornless character. The character which declares itself was called by Mendel the dominant character, and the other which recedes from view, for the time being, the recessive.

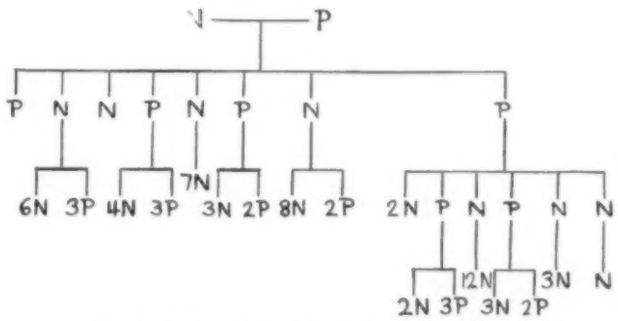

Fig. 4.—Fackenheim, 1888. *N* = normal; *P*, polydactyl.

Fig. 5.—Polydactylism in offspring but not in parents, who were first cousins. See Figure 2.

It should be noted that dominance is an important but not an essential feature in mendelian heredity. Indeed, the behavior of a dominant character is often irregular, and this very meristic character, polydactylism, which we now have under discussion, is one which presents great variations in the expression of its dominance, if, indeed, it may be considered to be a dominant.

But it is the segregation of unit characters in the germ cell, called by Mendel "segregation," which is his important discovery. Take, for instance, an offspring of a pure black guinea pig and a white one: such an animal, though black, has received from the parents both the factor for producing white and the factor for producing black offspring. But in any single germ cell of this animal the factor for producing white or that for producing black exists alone, never the two together. Some germ cells contain the black factor and some the white factor, but no cell contains them both. This is "segregation."

To proceed then: In respect to any unit character, such as height, there exist two allelomorphs, namely, tall and short, or in respect to color, say black and white, or in regard to horns, hornless and horned, and the factors for the production of any brace of these pairs may both exist in any individual, being inherited from the parents, but the germ cells of such an individual will each contain only one of the opposed factors. Therefore, if a parent DR in composition mates with DR, we can have offspring DD or DR or RR; and depending on the make-up of the parents, it is easily figured what the composition of the offspring may be. The possibilities are:

DD with RR gives all DR.
DR with RR gives 1 DR and 1 RR.
DR with DD gives 1 DD and 1 DR.
DR with DR gives 1 DD, 2 DR, 1 RR.
DD with DD gives all DD.
RR with RR gives all RR.

Polydactylism has been considered an irregular dominant to the ordinary five fingered condition: dominant because in transmission it has usually shown the character of a dominant trait; but irregular because from time to time normal individuals transmit the character without exhibiting it themselves, as will be seen by reference to Figures 3 and 4. This was also shown by Castle in his experiments with polydactyl fowl. Such a variation occurs in Figure 2 where 11 transmits the polydactylism through 3 to 5 and 6 without 3 exhibiting it, or 8 transmits through 2 and 4 to 5 and 6 without either 2 or 4 being affected, and similarly from 8 through 2 to 15 and from 8 through 14 to 16 and 17.

Let us assume, then, that polydactylism is dominant to the normal condition of five fingers and five toes, and consider the family tree in hand in that light.

Individual 8, DR in composition, mates with 9, RR in make-up. The offspring may be either DR or RR in kind; 10, 11 and 18 being polydactyl are obviously DR; 13 is possibly RR, but there are no children to determine whether he might be an irregular dominant DR. From appearance, 2 and 14 are RR, but from the fact that they both transmit the character to their young they must be labeled irregular dominants DR; 10 has children all recessive, apparently, and grandchildren of the same type RR, contrary to expectation but no departure from rule; 14, while not polydactyl, must be considered an irregular dominant DR, as two of her children, 16 and 17, are affected.

In the same manner the rest of the tree might be followed out, but it will be better to confine our attention to the ancestry of 5 and 6. The parents of these children, as stated before, show no evidence of polydactylism, but both 5 and 6, their only children (Figs. 5 and 6), are markedly affected. It should be noted that the parents are first cousins.

It is obvious that either 3 or 4 must be an irregular dominant DR, as the character, polydactylism, is transmitted to the children; indeed, it is more reasonable to suppose that each parent is DR in composition, and has contributed each a D to each child, making them both DD, which would account for the well-developed abnormality which they present. Other polydactyls in the tree being only DR in composition, we have the distinction in appearance between the homozygous or pure dominant DD and the heterozygous dominant DR. One other polydactyl in the tree, 18, did present twelve fingers and twelve toes, but his condition is not verified, as he died some years ago in Russia.

Fig. 6.—Polydactylism in offspring but not in parents, who were first cousins. See Figure 2.

To sum up, then, on the assumption that polydactylism is dominant, we have three departures from mendelian expectation in 2, 3 and 14 transmitting the character without exhibiting it, or five variations if transmission through 2 and 4 to 6 is admitted. It should be remarked that such a skip from 8 through 2 and 4 is a notable departure in the behavior of a dominant character. A further fact to be borne in mind is that, leaving out 5 and 6, all the affected persons excepting 18 show but an incomplete development of the anomaly, in most cases but a single rudimentary toe and at most, in the case of 15, one extra toe and two very rudimentary fingers.

Keeping these facts in mind, it is worth while to examine the data on the assumption that the character might be recessive in nature. We are confronted at once by the following errors: The polydactylism should not appear in any person in the series with the exceptions of 5 and 6; in their case (5 and 6) with their parents, each DR in composition, they could receive a dose of R from each and thus, being RR, would exhibit the polydactyl character. All others, being either DD or DR in nature, should show the dominant five fingered state. Therefore we are obliged to meet ten departures from the rule; but let it be remembered that in every instance but one the polydactylism is very imperfectly developed.

To decide that polydactylism is a recessive unit character we need only assume that the dominant five fingered condition is but imperfectly dominant; in other words, that the recessive character is from time to time able to declare itself. In considering six fingers dominant we were obliged to accept the equivalent assumption. Finally, it may be suggested that if the history, by chance, had begun and ended with the record of the parents of the children, the parents first cousins and neither affected and the children both affected, the evidence would be considered favorable to proving polydactylism a recessive character.

In conclusion I would like to state that I do not suggest that this tree proves polydactylism to be a recessive character; I mean rather that the evidence is not convincing so far that it is dominant in nature.

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MULTIPLE CARTILAGINOUS EXOSTOSES —HEREDITARY DEFORMING CHONDRODYSPLASIA

A BRIEF REPORT ON A LITTLE KNOWN DISEASE*

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During a recent service at the Children's Hospital there appeared a case which was rather puzzling as regards diagnosis. After some study I was able to classify it as an example of a disease little known in this country, which commonly goes under the obscure name of multiple cartilaginous exostoses. Further search brought to light roentgenograms of several other cases which represent the same affection. On the basis of this material I have begun an investigation of the condition, and later hope to present a thorough consideration of the subject. At this time

Fig. 1.—Photograph of arms of a girl aged 11 years, showing characteristic deformity. Note shortening and curvation of forearms, bulging in the region of lower epiphyses, and projection of head of radius.

* From the Orthopedic Clinic of the Children's Hospital.

I shall simply call attention to the matter by presenting briefly some of the salient characteristics of the disease, with photographs and roentgenograms of this patient, and photomicrographs of a specimen taken from an affected epiphysis.

TERMINOLOGY

The names given the affection are varied and confusing. The term most generally applied in English

Fig. 2.—Nearer view of hands and forearm. Both hands are closed as tightly as is possible, on account of globular enlargements on fingers and metacarpals, some of which can be seen. The enlargement above the wrist and the deformity of the forearm are plainly visible.

is the one already quoted, which was established by Virchow, following the classification of Astley Cooper, who, however, knew nothing of the disease. Other terms used are: hereditary multiple exostoses, multiple cancellous exostoses, ossified diathesis and rhachitiform enchondrosis. In France it goes under various names, exostoses epiphysaires nombreuses, exostoses ostéogéniques multiples or héréditaires or familiales, exostoses juxta-epiphysaires or de croissance multiples, exostoses congénitales symmétriques nombreuses, dyschondroplasia (Ollier), etc. The Germans, following Cooper and Virchow, at the present time adhere generally to exostosis multiplex cartilaginea, or its German equivalent, although some call it after the French, Wachstums-exostosen, and others add the term familäre or hereditäre.

In an attempt to correct the confusion by giving the disease a more definite name, and one suggesting its true pathology, Kienböck in 1903 and 1910 called it chondral or exostotic dysplasia, and Boggs of John Hopkins, writing of a case in 1913, called it multiple congenital osteochondromata. The first name is not clinically descriptive, and the second is too suggestive of tumor or neoplasm.

The disease is a distinct clinical entity. Its chief characteristics, as will appear later, are:

1. The occurrence of multiple more or less symmetrical cartilaginous and osteocartilaginous growths within and upon the skeletal system, generally benign, and resulting from a disturbance in the proliferation and ossification of the bone-forming cartilage.

2. The occurrence of certain typical secondary distortions and deformities of the skeleton.

3. The demonstration of inheritance in a large proportion of the cases. Hyperostoses above the affected epiphyses are the rule, but true exostoses are less frequent, and of secondary consequence.

In short, the affection is a chondrodysplasia, of hereditary or at least congenital origin, accompanied by secondary deformities of the skeleton. Accordingly I shall call it hereafter hereditary deforming chondrodysplasia.

OCCURRENCE AND DISTRIBUTION

The disease probably occurs in man all over the globe, and there is evidence of a similar affection in animals. Although it is considered among the unusual conditions, it is far more frequent than most of us imagine. I have been able to collect over 300 articles on the subject, representing approximately 600 cases. Although the great majority of these are from Germany, France and England, in that order, cases have also been reported from Russia, Italy, Japan, Denmark, Norway, Holland, Bulgaria, Roumania, Ireland, Scotland, Galicia, Switzerland, Sweden, Egypt and the Argentines. In a series of 236 cases reported in readily accessible German, French or English articles since 1890, 60 per cent. were Germans, 27 per cent. were French, 8 per cent were English, and other nationalities made up 5 per cent.

A total of about a dozen cases have been reported in America, by half a dozen authors. Four of these,

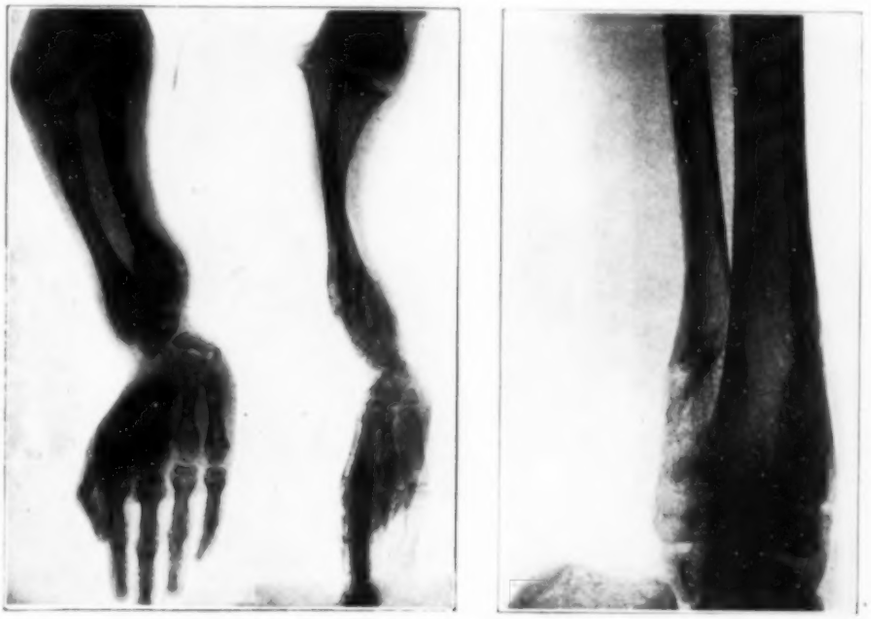

Fig. 3.—Roentgenogram of right hand and forearm, anteroposterior and lateral views. Note the disproportionate lengths of the radius and ulna, and the curvature, chiefly of the ulna. The radius can be seen dislocated at both upper and lower ends. Note the abnormality of the epiphysial lines, most marked in the lower end of ulna, and least in upper end of radius. All the diaphysial ends show in varying degree the changes described in the text. (The photomicrographs which follow were made from a narrow section 2 inches long cut longitudinally through the affected region and across the epiphysis of the left ulna.)

Fig. 4.—Roentgenogram of right ankle, lateral view. The fibula is relatively much shortened and the end of the shaft shows a great deal of disturbance. The tibia is slightly affected. (This patient has a bad double valgus.)

reported forty years ago by Gibney, were from a family of German immigrants, one reported by Leidy was of Irish birth, and the rest are given as American or not mentioned. The patient whose case is illustrated in the accompanying photographs is of French Canadian origin. That the incidence in this country is greater than these figures would indicate is suggested by the fact that since I began this study, four cases occurring in this community have been called to my attention.

It is interesting to note that in sex the males greatly predominate. Reinecke, writing in 1891, showed that in 163 cases in which the sex was given, the male outnumbered the female 3 to 1. In the 236 cases referred to, appearing since that date, I have found the proportion to be 5 to 2 in favor of the males. The proportion of females affected was much larger among the French and English (about 33 per cent.) than among the Germans (about 22 per cent).

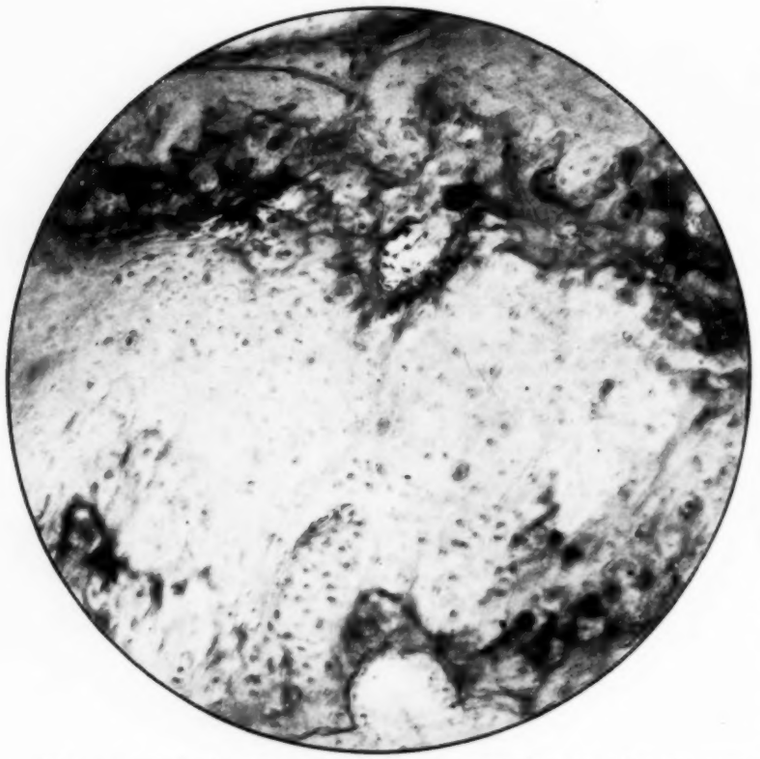

Fig. 5.—The epiphysial line, as seen with moderate magnification. Note the excess of cartilage cells, the irregularity of the cell columns, and the general disorderliness as compared with a normal epiphysis.

HEREDITY

The question of heredity in this disease is a large one, on which I can barely touch. The earliest writers recognized that it was transmitted by inheritance, and time and further investigation have substantiated this. It is now generally accepted that heredity plays the most important if not the only rôle in its occurrence.

Reinecke was able to find in the literature preceding 1890, much of it vague and uncertain, thirty-six families in which 172 cases occurred. Of these, 1 showed the disease in five generations, 2 through four generations, 15 through three, and 12 in two. In the 236 more recent cases already referred to, heredity was demonstrated in 176, no heredity was found in 18, and in the remaining 42 heredity was uncertain or not mentioned. Of these, 174 occurred in forty-two families; in two families it could be traced through four generations, in fifteen through three, in twenty-one in two generations. In two cases it was transmitted by an unaffected mother, two mothers had affected children by different husbands, and one father had affected children in two marriages. In two instances it was seen to skip a generation. It was found to be transmitted through affected males thirty-five times, and affected females twenty times. These figures correspond well with those of Gossage and Carling, who recently studied sixty-seven affected families.

The lack of demonstration of heredity in any given case may depend on the fact that the condition has been frequently found to exist without the knowledge of the subject, and that the affection may skip a generation and be transmitted by an unaffected female. There is no good evidence that an unaffected male can transmit the disease.

Other congenital conditions may accompany the affection, such as angioma, supernumerary fingers or toes, and microdactyly. There seems to be no special predilection for the first-born.

PATHOLOGY

A great deal has been written about the pathology of the condition, and some confusion regarding it exists at the present time. The reason for this is that most of the theories date from pre-Roentgen days, and that the attention of the pathologists has been directed toward the relatively unimportant exostosis, rather than to the intermediary cartilage at the epiphysial line, where the root of the trouble seems to lie. I have been fortunate in being able to get a specimen from across the epiphysial line in a young patient, and this has received careful study at the hands of Dr. Ash of the pathologic department of Harvard. There is no specimen of just this sort, I believe, on record.

The disease consists, in brief, of a disturbance in the process of proliferation and ossification at the intermediary cartilage during the period of skeletal growth. Wherever bone is being laid down in cartilage, there the disorder may occur; accordingly, it skips the membranous bones of the cranium and face. The process of cartilage cell proliferation, instead of being orderly, with an orderly zone of calcification, is exceedingly irregular. The growth of cartilage is excessive, and the zone of proliferation and the end of the diaphysis are filled with masses of cartilage cells in irregular groupings, with some intermingling of marrow, and with here and there an imperfect effort at calcification.

Under the microscope the resemblance to chondroma is striking. This extends for some distance up the shaft, so that the end is usually ballooned out, with a thin irregular cortex, and in the roentgenogram it is greatly rarefied, so that it has much the same appearance as a cyst. The cartilage of course casts no shadow, and what little ossification there is shows up in fine strands running up and down and obliquely across the irregular cystic space. The Roentgen ray shows the epiphysis to be small or misshapen,

the intermediary cartilage narrow, irregular, oblique or zigzag, and sometimes prematurely ossified.

Scattered along in the thickened and hyperactive periosteum of the end of the shaft are to be found clumps or nests of cartilage cells, persisting uncalcified where they were left in the process of growth. These groups may develop later into cartilaginous exostoses or chondromas.

Accompanying this pathologic picture there are certain secondary and characteristic skeletal deformities, more marked of course as the child grows older, and consequent on the retardation and faulty line of growth. A shortness of stature is practically constant. The patients are always medium height or below, and sometimes they are so dwarfed as to resemble a cretin. Curiously enough, the lack of growth is in the legs, and not the trunk, and the longitudinal center of the body will be found not at the pubes, but some distance above it. The upper limbs are also short. This retardation is always, within certain limits, symmetrical.

Next most characteristic is a relative shortening of the ulna. The radius is usually less affected than the ulna, and its growth in length is accordingly less defective. It outstrips the ulna in its development, and something has to give way. Usually the radius dislocates at its upper end, and protrudes under the skin in the region of the external condyle, which is atrophied or underdeveloped. This condition has frequently been miscalled "congenital dislocation of the radius." Less frequently the radius dislocates at the carpal end, throwing the hand way over to the ulnar side, so that it may even stand at right angles to the forearm. Once in a while the interosseous membrane gives way, and the radius bows outward without dislocating at either end. In rare instances the relation between radius and ulna has been found reversed.

Other characteristic deformities, which I shall merely mention, are a high grade pes valgus, depending on a disproportionately greater retardation in the fibula than in the tibia, and knock-knee. Rarely the reverse deformity, varus, has been noted. Scoliosis, which is probably secondary to some relatively slight asymmetry in the growth of the legs, is not uncommon. Irregular and jagged hyperostoses are frequently found about the affected epiphyses in the adult, and occasionally an exostosis on the shaft of a long bone.

Beside the limbs, we find the pelvis and scapula frequently affected. The pelvis is likely to be encroached on or deformed to such a degree that it endangers life in childbirth. Drescher's patient, for instance, died, and the baby was found to be affected. Tumors of the scapula develop to such size that a considerable depression is made in the chest, involving three or more ribs. The ribs themselves often show exostoses, and sometimes synostoses, developing from the head, angle or costochondral junction. Here we commonly have a well-defined rosary. The clavicle and the spine may show outgrowths as well. On the head, exostoses sometimes appear on the lower jaw or about the base of the skull. The most typical occurrence here is at the spheno-occipital junction, small outgrowths (ecchondrosis spheno-occipitalis, Virchow) being found at this point in most necropsies on chondrodysplasic subjects.

ETIOLOGY

Hereditary deforming chondrodysplasia is to be classified roughly with rickets, fetal chondrodystrophy, osteomalacia, osteogenesis imperfecta, dwarfism, gigantism, acromegaly and cretinism. It has frequently been confused with myositis ossificans. Various theories as to its origin have been held, but most of them have not been found tenable for long. That it should have been considered secondary to rickets, as it was by Virchow and by many before and after him, is not surprising in view of the nature of the bony deformities. The microscopic changes are totally unlike.

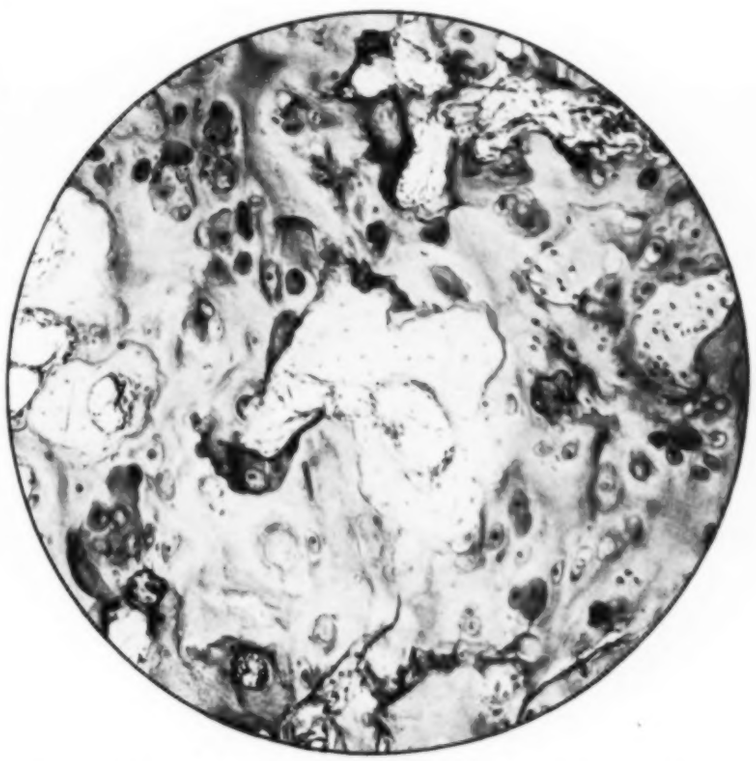

Fig. 6.—High power view of epiphysial tissue. Bone is being laid down on irregular cartilaginous trabeculae. The cartilage is in great excess, and the cells are atypical in arrangement. Calcification is irregular. Note the mitotic figures.

The thyroid has been blamed for the condition, partly because its chief area of occurrence lies within nearly the same geographic lines as does the center for cretinism. In a few cases there seems to have been coincident thyroid changes in the patient or his family.

Tordeus considers it a trophic disturbance, depending on disease of the central nervous system, and a few cases have shown coincident degenerative conditions of the central nervous system.

The condition has been called infective, because in a few cases the appearance of bony growths has been preceded by febrile attacks, with rheumatic pains.

The syphilitic theory has been generally discarded. As much cannot be said, however, for its association with tuberculosis. Pissavy goes so far as to say that

he has found tuberculosis noted in forty of 100 cases, and in the antecedents of forty-three. This association, at any rate, seems common enough, whatever its significance.

Finally we come to the now well-accepted view of the inheritance of a faulty anlage for the bone-producing intermediary cartilage.

SYMPTOMS AND COMPLICATIONS

The condition is a developmental one, and the hyperostoses, deformities and exostoses increase on a parallel with skeletal growth. With the cessation of skeletal growth, or at about 22 years, they become stationary. In rare cases slight regression seems to have taken place. Except for the unusual cases with febrile attacks, noted above, there are no symptoms, and many persons have been rounded up—relatives of patients who have come under observation—who never knew they were affected. Even with considerable deformity, function is usually good, although a bad valgus is likely to be troublesome. Occasionally a large hyperostosis will impede the action of the adjacent joint, or a pointed exostosis cause pain on certain motions. Cases have been cited of perforation of bladder and of pregnant uterus by pelvic exostoses.

In many cases the bony projections are provided with bursae. They are subject to all the affections of bursae, such as suppuration, and this may lead to secondary necrosis of the exostosis. Sometimes they contain many loose bodies, like joint mice. Or bony projections may fracture from trauma, and remain movable, or reunite. There are seven cases on record in which, as the result of trauma (often mild), a large

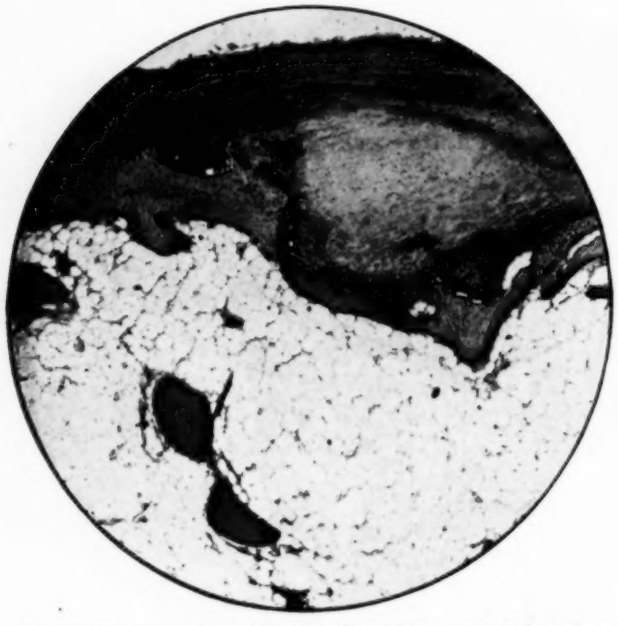

Fig. 7.—Low power view of cortex and periosteum one-half inch above epiphysial line, showing an island of cartilage in the periosteum. The cortical bone is abnormally thin, the periosteum is thickened, and its osteogenetic layer shows an apparently increased activity.

artery (usually the popliteal or femoral) has been torn on the apex of a bony outgrowth, causing an aneurysm. I have found two cases on record of paralytic club-foot from involvement of the peroneal nerve in a hyperostosis, one of fatal spastic paresis from bony growths in the spinal canal, and a few questionable cases of intracranial growths.

The most frequent and the most serious complication is the development of a rapidly growing or malignant osteocartilaginous tumor in persons afflicted with this disease. Lenormant and Lécene in 1905 collected twenty-four cases of this nature, most of them fatal, and I have found in the literature about a dozen more. This would figure about 5 per cent. of the total number of reported cases. The ages at which this development has been noted lie between 11 and 59, but it usually

Fig. 8.—Low power view of cortex more than an inch from epiphysial line. Note the cartilage inclusion in the thin cortical layer; the bony growth enclosing the island of cartilage projects into the marrow space and not externally.

occurs soon after skeletal growth has ceased, or between the ages of 25 and 35. Any increase in an exostosis after the cessation of skeletal growth should be treated with suspicion, and surgical steps at once taken. Excision should be carried well into normal cortex and medulla.

Beyond this, treatment is indicated only when the removal of a bony growth will facilitate joint function, or when an osteotomy will correct a disabling deformity. Bony operations for corrective purposes may conservatively be postponed until skeletal maturity.

362 Commonwealth Avenue.

Definition of Condensed Milk, Evaporated Milk, Concentrated Milk.—The Joint Committee on Definitions and Standards of the American Association of Dairy, Food and Drug Officials, the Association of Official Agricultural Chemists, and the United States Department of Agriculture, on Nov. 20, 1914, adopted the following definition and standard for condensed milk, evaporated milk, concentrated milk:

"Condensed milk, evaporated milk, concentrated milk, is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, and contains, all tolerances being allowed for, not less than 25.5 per cent. of total solids and not less than 7.8 per cent. of milk fat."

THE CELLULOID TUBE IN FINGER INJURIES

ITS USE IN ADDING LENGTH TO THE TERMINAL PHALANX AFTER TRAUMATIC LOSS OF TISSUE *

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When a partial traumatic amputation of the terminal phalanx of a finger takes place, one of two conditions is found: Either the part is cut away clean with little damage to the remaining portion, or the part is crushed off and the tissues adjacent to the amputated portion are more or less traumatized.

After the ordinary healing by granulation, we often find a sensitive stump in which the bone is covered only by a thin scar.

The question arises as to the best method of early treatment, especially when the bone is exposed.

In order to obtain a good functional result we must contrive to place a pad of tissue over the bone. This may be done rapidly and satisfactorily by shortening still more the exposed bone and closing the soft parts over it, but this method gives a shorter stump.

In certain occupations the loss of all or a portion of the terminal phalanx of a finger is a matter of considerable economic importance to the skilled worker. It is often advisable to preserve the remaining length of the finger, and if possible to replace the loss of tissue, thus giving a more useful and less painful stump, and at the same time one which is less disfiguring.

After seeing quite a number of these cases, it occurred to me that some simple procedure might be devised by which this object could be accomplished.[1]

Fig. 1.—*A*, a convenient pattern by which to cut the celluloid; *B*, the celluloid tube in place, partially filled with a blood clot; patient seen shortly after accident. *C*, after removal of tube; the line of the amputation can be seen, and above it the molded clot: Note the snug fit of the tube in B, and the clearness with which the skin can be seen through it.

The advisability of tissue transplantation suggested itself at once, and the method of utilization of pedunculated flaps from the chest or abdominal walls to replace the loss was considered.[2] This method, however, can be carried out only in the hospital, as constant supervision of the patient is essential on account of the irksome position necessary.

The majority of the patients with these injuries are treated in the outpatient department, so a method must be used which would give good results without the necessity of admission to the hospital.

The most promising procedure seemed to be that of stimulating the growth of granulation tissue on the end of the stump, and in some way to confine the growth to the desired size and direction.

In searching for means to accomplish this I thought that a stiff nonadhesive material which could be wrapped around the finger would be satisfactory. After a number of experiments, I found that sheet celluloid $\frac{1}{200}$ inch thick would be best for the purpose. This material was transparent and could be cut in a pattern which, when rolled, formed a tube adjustable to the size of the finger.[3]

TECHNIC

The stump is painted with tincture of iodin. The shaped piece of celluloid, after being soaked in mercuric chlorid, 1:1,000, for a sufficient time, is sponged off with ether or alcohol. It is then wrapped around the finger and secured with narrow adhesive strips, thus making a tube which is slightly smaller at its free end than at its base. When the tube is properly adjusted, it will hug closely the edge of the wound, and will gradually become larger until it impinges on the first interphalangeal joint. The celluloid may extend as far beyond the finger tip as is needful, and in addition to its primary function, it also serves as a splint for the finger and as a protection to the wound.

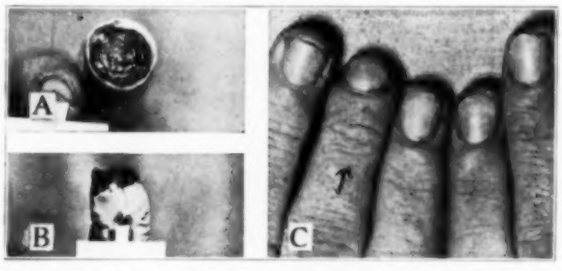

Fig. 2.—*A*, end view of finger stump; celluloid tube applied twenty-four hours after accident. *B*, three days later; note clot. *C*, fourteen months after accident; the wound was healed in thirty-five days.

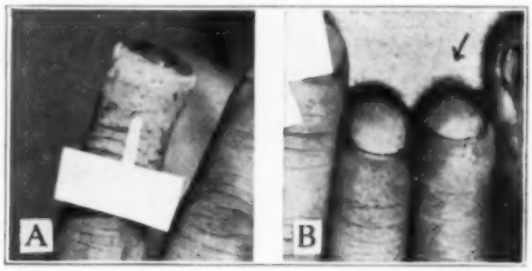

Fig. 3.—*A*, finger stump four days after accident, before application of celluloid tube. *B*, finger ten and one-half months after accident; the healing was complete in thirty days.

* From the Surgical Outpatient Department, Johns Hopkins Hospital.

1. One should always replace the amputated portion unless it is too much traumatized, or unless a period longer than three or four hours has elapsed between the time of the accident and the first treatment. This procedure is attended with little danger, and if the replaced portion does not regain its vitality, it can be easily removed and the building up process then inaugurated.

2. Tietze: Deutsch. med. Wchnschr., 1898, p. 278. Kausch: Ibid., 1909, p. 2146; 1911, p. 283. Payr: Ibid., 1910, p. 781. Klapp: Ibid., 1912, p. 1569.

3. G. W. Meil (Denver Med. Times, January, 1910, p. 273) advised in partial traumatic amputations of the terminal phalanx that the granulations be stimulated and then molded by means of adhesive plaster.

In cases seen early, a blood clot is allowed to form in the tube. This clot serves as a scaffold for granulations. If the soft parts are lacerated and spread apart, they are gathered together and held in place by the tube.

In those cases which are seen after the granulations have started, every effort is made to stimulate their growth, and to train this growth along the tube.

Any desired medication may be applied to the wound after the celluloid is in place, either by pouring it into the tube, or by packing the tube with gauze. The dressing in this way comes in contact with the wound, and is confined by the tube. A loose gauze plug is then placed in the mouth of the tube, and over all a small dressing secured by a bandage.

Fig. 4.—*A*, finger stump two weeks after accident, before treatment with celluloid tube was begun. *B*, fourteen months later; the wound healed in twenty-eight days.

Fig. 5.—*A*, finger stump five days after accident, before treatment; *B*, finger three and one-half months later.

SUMMARY OF CASES

Number: Fifteen cases, males, 13; females, 2.

Ages: From 16 to 50 years.

Color: White, 13; colored, 2.

Occupation: Operators on machines, 15.

Etiology: All were injured in machines.

Situation: Right forefinger, 5; left forefinger, 4; right middle finger, 2; left middle finger, 3; right thumb, 1.

Duration of lesion before coming under my care: From one hour to twenty-six days.

Amount lost: From 0.75 cm. of the tip to the entire terminal phalanx.

Amount gained: From 0.5 to 1.25 cm.

Type of lesion: The nail was involved in all. In two there was some loss of tissue, the remaining soft parts of the terminal phalanx being mushroomed out and badly crushed, although still attached to the finger by pedicles. In neither of these was the bone involved. In thirteen the amputations were more or less clean cut, with little crushing of surrounding tissues, and in all of these the bone was involved. In ten of these the lesion involved more of the dorsal than of the palmar surface. In one the skin was involved equally on both aspects of the finger, and in two the lesion involved slightly more of the palmar surface.

Treatment: The celluloid tube was used in all in addition to stimulation. In one in addition to the foregoing small deep grafts were used to hasten healing.

Duration of treatment: Entirely healed after 10, 21, 24, 26, 28, 29, 30, 33, 34, 35, 36, 38, 39, 45 and 66 days, with an average of 33 days. The cases taking the greater number of days before healing were those in which the wounds were seen late, and which were prevented from prompt healing in order to give more length to the stump.

Results: There is increase in length of the soft parts in all, and in four instances slight increase in the length of the bone.

There is not a single painful stump in the series. The pad of tissue over the bone is quite movable, and soft in all. Voluntary flexion of the terminal phalanx is excellent in all, even when only a small amount of the phalangeal bone remained.[4]

REMARKS

The accident may be caused in many ways. In this series they were all caused by presses of one sort or another.

The tissue loss of the terminal phalanx varied from only the soft parts to that of the entire phalanx.

The lines of section were in varying directions, but the involvement was usually more on the dorsal than on the palmar surface.

There was no retraction of the edges, the sections being as though cut through a banana or a sausage.

The comparative value of the different fingers varies with the occupation, but it may be safely stated that the thumb, the index and the middle fingers are the most generally useful. The method is simple and the patient can return to his home at once, and do light work after a short time.

A very small gauze dressing around the celluloid suffices. Any jar on the end of the tube is transmitted to the finger behind the wound, much as is the case in an artificial limb, where the weight-bearing portion is not on the end of the stump, but on the normal tissue above it.

The granulations may be observed through the transparent celluloid without its being necessary to remove the tube.

There is sometimes sweating of the skin of the finger if the tube is allowed to remain in place for longer than two or three days. The tube may be easily removed, as it does not stick, and after cleansing, it may be replaced, or a fresh tube adjusted.

Fig. 6.—*A*, finger stump with molded blood clot, five days after application of celluloid tube. *B* and *C*, nine months after accident; the wound was healed in thirty-six days.

The thickness of the granulating area can be stimulated by various means. As the granulations grow, the epithelium from the skin edge also grows, and often it is difficult to prevent it closing over the stump before the desired length is obtained. In these instances the epithelial edges should be retarded with silver nitrate.

4. The celluloid tube has also been used with success as a protective dressing for other lesions of the terminal phalanx, such as compound fractures, lacerations, etc.

In some cases when the granulations are sufficiently advanced, it is advisable to cover them with small deep grafts, in order to give a more stable and quicker healing. It might have been better to have grafted more of this series.

The cases seen soon after the accident give the best results as far as increased length is concerned.

Building new tissue on the end of the stump is slow, but in the end it will preserve the bone which remains, and cover it; and will also often add materially to the length of the stump. If the joint is uninvolved, even a short bit of terminal phalangeal bone will form the basis for a shortened terminal phalanx, which may be voluntarily extended and flexed, and can be used nearly as well as an intact terminal phalanx.

From the standpoint of function, increased length and improved appearance, the results have been better than with any other method with which I am familiar.

1200 Cathedral Street.

SUBCONJUNCTIVAL INJECTIONS OF SALVARSANIZED SERUM IN OCULAR SYPHILIS

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In a paper published about a year ago, Dr. W. H. Hough[1] made the following statement:

> That the organisms have not been found as a rule near the blood vessels, but generally in the gray matter at some distance from them, and that salvarsan appears to have a greater predilection for most of the other tissues of the body than it has for nerve tissue, as Uhlmann has shown in his studies of the neurotropic action of this chemical, may explain in part the inefficiency of salvarsan administered intravenously in the treatment of these conditions.

The close analogy of the ocular circulation to that of the brain suggested to me a reason for the pathology of ocular syphilis that had not heretofore, to my knowledge, been applied in ocular therapeutics. Because of the terminal feature of the ocular circulation, the spirochetes were able to take such a position in the eye as to protect themselves from the blood stream and thus escape, as far as possible, the power of the blood and of measures therapeutically applied. I thought that if salvarsan could be directly brought into contact with the organism, the chances for cure would be much greater. It had been previously shown by experiment that the injection of solutions of salvarsan into the spinal canal had been productive of destructive changes, and it was inferred that the use of such solutions in the eye was inadmissible. The marked benefit and absence of untoward results that followed the use of salvarsanized serum in cerebrospinal use determined me to apply it subconjunctivally in ocular syphilis.

CASE 1.—The first case was that of a chorioretinitis with pigment proliferation in the macular region.

R. P., chauffeur, aged 28, had an initial sore about five years before admission to the George Washington Hospital in November, 1913. Two years previous to admission, while living in the country, he had had an inflammation in the right eye that practically destroyed vision in that eye. It was a specific chorioretinitis, central, and destroyed the entire macular region. On admission he presented a central chorioretinitis of the left eye with beginning pigment proliferation. Vision was 6/60. An immediate Wassermann was double plus. The patient was given salvarsan intravenously and Hough prepared serum, four doses of which were given subconjunctivally at intervals of two days. He left the hospital in two weeks from admission with vision 6/12 plus, the pigment proliferation arrested and diminished and the general inflammatory reaction altogether subsided. He was seen several months later and vision was then 6/9 in that eye.

CASE 2.—The second case was a child, Mary A., aged 6, with an interstitial keratitis. In this case congenital syphilis was diagnosed, as the mother had previously been treated for nasal syphilis in the same hospital service. She was first treated early in November by two subconjunctival injections of serum. Being a very refractory child, the mother not being able to control her, serum was given to the mother and used by dropping directly into the eye. This was carried on without difficulty and seemed to produce good results, the infiltration clearing quite rapidly, and at the end of four weeks was but faintly seen on oblique illumination. The mother then discontinued her visits, so that the final outcome is not known; but the rapid clearing of the eye in this case gave a fair presumption that the serum is much more rapid in its effects than the old methods of treating interstitial keratitis.

CASE 3.—A third case, the records of which cannot be found, was an old disseminated choroiditis, in which the patient had had several doses of salvarsan with but little improvement in vision. Three or four doses of serum were given, which improved vision one line. The patient then drifted away from the dispensary service, so that no further information could be obtained.

An important consideration in conducting these tests was to establish the advisability of using the serum subconjunctivally. It was found that there was no more reaction from the serum than from ordinary salt injections: that it was rapidly absorbed and did not cause any great pain or inconvenience. The marked improvement which the injections seemed to promise determined me to present the matter to my colleagues of the Washington Society of Ophthalmologists, Dec. 19, 1913. Following this presentation, Lamb took up the work in his service at the Freedman's Hospital, rich in clinical material of this character. From the report of his experiences[2] the following quotations are selected:

> A third case of double plastic iridocyclitis of both eyes had been treated for three weeks when I saw him. The right eye had posterior synechiae; the left eye had marked posterior synechiae with a gumma, which was a very, very large one. The first injection cleared the right eye of the posterior synechiae, the left was partially benefited and the second and third injections improved the left eye, which finally healed, inflammation having subsided, with adhesions between that portion of the iris which had been gummatous and the anterior capsule of the lens.

He mentions a case of interstitial keratitis which was cured within three and one half months, whereas other methods take a year or more. He also says, "These cases, which resisted all the drastic measures, including the injection of salvarsan, should be sufficient to illustrate the efficacy of the treatment." Dr. A. H. Kimball has used the treatment on a number of patients at the Episcopal Hospital with uniformly good results. No report of his experiences has been published.

In the discussion following Lamb's paper before the District of Columbia Medical Society, Hough stated that the researches of Ehrlich and others have shown

1. Hough, W. H.: Intraspinous Injection of Salvarsanized Serum in the Treatment of Syphilis of the Nervous System, Including Tabes and Paresis, THE JOURNAL A. M. A., Jan. 17, 1914, p. 183.

2. Lamb: Washington Med. Assn., March, 1915.

that salvarsanized serum has a distinct spirochetacidal power, a power greater than that exercised by salvarsan itself.

It is believed from the work that has been done that the procedure is safe and entirely justifiable logically; that it brings the serum into direct contact with the location of deposit of the spirochetes in the eye, and therefore marks a step forward in ocular therapeutics.

1545 I Street, N.-W.

HYDROTHERAPY IN THE TREATMENT OF MENTAL DISEASES

ITS FORMS, INDICATIONS, CONTRAINDICATIONS AND UNTOWARD EFFECTS

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The forms of hydrotherapy available are ordinary sponging (cold or tepid), hot packs, cold packs, enteroclysis, hypodermoclysis and the free use of water internally. Hot packs and cold packs are especially advantageous in those conditions in which the tubs, cabinets and sprays are contraindicated. They are exceedingly useful in the extramural treatment of the insane, and possess unusual advantages in the intramural treatment of the various psychoses. The free use of water by mouth is indicated in all forms of insanity. Enteroclyses as well as hypodermoclyses are especially advantageous in the treatment of all cases showing exhaustion, excitement or depression. Swimming pools are useful for exercise and diversion.

METHODS OF ADMINISTRATION

Many hospitals overlook the free administration of drinking water in the treatment of these diseases. In order that the patient may receive the necessary amount of water, the physician in charge should prescribe the amount desired, just as he would the use of drugs. Every physician who graduates from a recognized school at this epoch is certainly familiar with the application of cold and hot packs, the time and length of application depending on the physical condition of the patient, the effect desired and results obtained.

One should be very guarded as to the class of insane for which he prescribes cabinet sweats. This form of treatment is indicated primarily in all those cases which show signs of autointoxication, regardless of their psychoses. The contraindications are marked physical deterioration, advanced circulatory disturbances, renal diseases, etc., as well as a disturbed condition of the patient.

This treatment should always be given by trained nurses or skilled attendants, well versed in the operation of the cabinets as well as in the interpretation of physical symptoms. Aromatic spirit of ammonia should be close at hand, an ice cap applied to the head, and water given freely during the time of sweating. Perspiration usually becomes profuse at the expiration of about ten minutes, and here the patients should pass immediately into the shower for subsequent sprays in order to avoid catching cold. Cabinets should be well protected, all heat pipes or frame work properly protected, and doors to the cabinets should be such that they can be opened quickly. The neck should be well covered, and a large towel should enclose the patient's lower body in order that the procedure may be done as modestly as possible.

CONTINUOUS BATHS

In speaking of continuous baths one naturally infers the warm bath, a bath which does not drop below 88 or exceed 100 F. I know of no condition other than physical impairment which would prevent the use of continuous baths; they can be used in cases of depression as well as marked excitement. Aside from their therapeutic effect they have a moral influence over certain incorrigible patients. Incorrigibility itself is not an indication. The bath may be administered in several forms; tubs may have separate regulators, but preferably, one central stand should be the control. Patients may be given the freedom of the bath or they may be restrained, depending on the nature of the case as well as the therapeutic result desired. To my mind, if the nonrestraint form of bath is to be used, it would be preferable to have swimming pools erected for this purpose whereby the patient can have freedom of movement and mental diversion as well as freedom from restraint. The continuous tubs are to be used for cases requiring active therapeutic medication.

The majority of patients for whom the baths are prescribed in the Philadelphia Hospital for the Insane usually receive the restraint form of treatment, because they are usually of the most violent classes, in which a quick relaxation is desired. This restraint may be accomplished by a swinging hammock suspended in the tub with an ordinary restraining sheet superimposed and the head well protected with a rubber ring, with the patient sufficiently high in the tub to prevent strangling. We have found that in placing the patient in the tub, if he is given a dose of Epsom salt, a relaxation is quickly obtained; a simple bandage applied to the eyes and ears to shut out external stimulation also has given good results in this particular class of cases.

Our experience teaches us that a bath of short duration at frequent intervals has more advantages than a prolonged bath of days or weeks.

UNTOWARD EFFECTS

The effects of tub baths at times are disastrous, particularly it the nurse in charge is derelict in her duties, or the hot water regulators should become unmanageable. The most unfavorable which we have had in this institution were eczema, particularly if the patients were given a long period of continuous treatment. Other serious effects were heat stroke and heat exhaustion.

When the plant was first installed, a few of the patients developed an eczematous condition of the skin. Within the past five years we have had no untoward results except in two cases which are here briefly enumerated:

Case 1.—A patient was admitted to the hospital suffering from insanity in which there was marked psychomotor restlessness; all means to secure relaxation had failed and the tub bath was prescribed; at the time he was placed in the tub his physical condition was good and there were no contraindications; the attendant in charge of the patient was skilled in his work. Suddenly, during the course of the treatment (after only a few hours), the patient became pale and prostrated; he was immediately removed from the tub, placed in the ward and a physician and graduate nurse summoned, who rendered all medication possible. The patient's temperature was not elevated abnormally, the pulse was rapid

running, and the respirations were increased. He died during the night from heat exhaustion.

CASE 2.—A patient (of Dr. Abramovitz) was admitted to this department suffering from insanity (mania) in which there were periods of psychomotor restlessness, and on previous occasions he had received the tub treatment without any untoward effects. Suddenly, when in the tub (after only a few hours), he became prostrated. He was immediately removed from the tub and placed in the ward, the physician and graduate nurse summoned, and all medication possible rendered. His temperature was elevated, pulse rapid running and the therapeutic treatment given was one usually prescribed for heat stroke. The patient received stimulation hypodermically, cold water by bowels, and ice compresses until there was a response, at which time the application of cold was replaced by the application of heat; hot water bottles and hot enemas were given. The patient made an uneventful recovery so far as heat stroke was concerned.

SHOWERS AND SPRAYS

The showers and sprays are particularly advantageous in cases of depression, such as melancholia, praecoxes, neurasthenias, etc. The rain sprays and especially the Scotch douche have a tendency to arouse these patients from their stupid state. We use the showers and sprays more in this hospital than we do the continuous baths, for here we have freedom of restraint, exercise and mental diversion; the tubs, like certain drugs, are used only when distinctly indicated.

LOCATION OF HYDROTHERAPY PLANT

In visiting the various state hospitals and hospitals abroad, I could not help being struck with the location of many of the hydrotherapy plants. Some were located off from the main buildings, which necessitated carrying the patients to and fro on stretchers with all the subsequent exposure to heat or cold. Some were installed in basements, some in close proximity to one department, absolutely slighting the other sections.

In our own institution a handsome outfit, of its day, was located in close proximity to the neurologic infirmaries and acute receiving wards of the insane department, which was an excellent idea. The female division, however, was on the opposite side of the quadrangle, which necessarily meant carrying all patients across the yard for their baths and subsequent stretcher cases to their receiving ward. The receiving ward was badly located, being in the third story, in which were dispersed cases of all descriptions. An effort was made to transfer the acute receiving ward of the female section so that it would be adjacent to the hydrotherapy plant; in carrying out such a scheme we were successful, and at the present time we have the acute male and female receiving sections in close proximity to hydrotherapy; in fact, a bed can be wheeled from either ward into the continuous bath room without exposure. One cannot help but see how such an arrangement would be exceedingly advantageous from the standpoint of medical administration and otherwise. We have been very successful in the manipulation of this plant, and our therapeutic results have been indeed gratifying.

CONCLUSIONS

The indications for hydrotherapy treatment are excitement, depression, elimination, autointoxication and when a relaxation is desired or mental diversion and exercise.

Water by mouth, enteroclysis, hypodermoclysis, cold packs and hot packs may be used in any form of insanity.

The continuous bath is indicated in excitement and depression, showers and sprays in depressions and stuporous cases.

The contraindications are, first, the tub baths should not be prescribed for cases with marked physical deterioration, wasting or advanced physical diseases or skin diseases; second, cabinet sweats are contraindicated in cases in which there is marked excitement as well as marked physical disease.

The untoward effects of hydrotherapy are prostration, shock, acute circulatory disturbances, heat exhaustion and heat stroke, burns, injuries and complicating physical diseases, such as pneumonia, etc., if the baths are not properly given and the patients properly clad after the treatment.

All hydrotherapy plants should be located on the first floor in close proximity to the receiving wards of both sections; if not, tubs should be installed adjacent to the wards where refractory bed cases are treated. Hydrotherapy plants should be well ventilated, heated and conveniently arranged, proper apparatus installed and kept in proper working order, and the plant should be for therapeutic measures instead of an "exhibit building" for visitors, or for the purpose of securing statistical tables for annual reports.

"Lunatic asylum" is the proper nomenclature for an institution which has no hydrotherapy outfit; to call such an institution a hospital would be a misnomer and, to say the least, exceedingly out of place.

Thirty-Fourth and Pine Streets.

THE DIAGNOSIS OF PREGNANCY

A SIMPLE METHOD BASED ON THE PRESENCE OF SPECIFIC ENZYMES IN THE URINE

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It has been clearly demonstrated by Abderhalden, and the host of workers following in his footsteps, that protective enzymes are developed in the body as a result of the presence of a foreign protein in the blood stream, whether that protein be derived from placental tissue, or carcinoma in the body, or be introduced from without for experimental purposes.

These enzymes, proteolytic in nature, have been found in the serum: their function is to digest the foreign protein and split it into amino-acids, in which form it may properly circulate in the blood stream, and be absorbed by the cells.

While working with Dr. A. A. Bruère at the Royal Victoria Hospital, Montreal, on a method of performing the Abderhalden cancer test without the use of dialysing thimbles, I observed that a serum which gave a strongly positive test after incubation for twenty hours was negative on the following day. The suggestion was made that certain enzymes had dialysed out, causing the further splitting of peptone and amino-acids into simpler bodies which would not give the ninhydrin reaction. Theoretically one might now expect that an enzyme which is dialysable through a parchment thimble would also pass through the kidney and be found in the urine.

It was at this stage that Professor Adami called my attention to Kiutsi's work on urine diagnosis[1] in which

1. Kiutsi, M.: Kiutsi's Urindiagnosis by means of "Filtration Process," June 10, 1914; printed by Bunyeido, Sapporo (Japan).

this passage of specific enzymes through the kidney was made the basis of a wide-spread method for the diagnosis of disease.

Kiutsi's method is as follows:

> By filtering urine of a pregnant through animal charcoal, the urine is clarified and protein and peptone taken off, i. e., let it be filtered through animal charcoal several times until biuret reaction is no longer positive. Then 5 c.c. of so treated urine is put into a test tube. Into it 0.1 gm. of Kiutsi's placenta is added and the mixture is left for six hours or fourteen hours. After this the entire liquid is filtered through a filter paper into another test tube, and 2 c.c. of sodium hydroxid is added. After shaking the contents a little, the test tube is held by the left hand in a slanting position. With the right hand the copper sulphate solution is taken in 1 c.c. pipet. On letting the copper sulphate solution run down slowly by the inside of the tube, where two liquids meet, a brilliant purple color may be formed. Then the reaction is positive. But if no such coloration takes place, the reaction is negative.

Kiutsi says that he has "repeated this method hundred times, and never missed," and says, "By this method the early pregnance, the early abortion and the extra-uterus pregnance could positively be detected, and its reliability put even myself to astonishment." He also states that he has been able to diagnose cancer, nephritis, tuberculosis of the lungs, renal glycosuria and other diseases by this method, using the proper substrate in each case.

Kiutsi, while indicating the broad outlines of this method, is careful not to give any details regarding the preparation of his dried substrate, and has avoided pointing out the precautions which have to be taken to obtain uniform results. His paper is remarkable, and that not alone from the importance of the fundamental observation and the naïveté and quaintness of its diction. Undoubtedly the combination of the claim to have discovered a practically universal diagnostic method, with what appears to be a purposeful silence regarding the finer but essential details of that method, must create at first an unfavorable impression. Nevertheless, the observations tallied so remarkably with our own as to demand confirmation. The work, if correct, opens up such a large field for research that I sought to verify it by a similar series of experiments.

In the absence of any details as to the method of preparing the dry substrate, the following plan was adopted:

Two placentas were obtained, freed from blood by washing in saline solution, and then in running water, and treated according to Abderhalden's directions until the water in which a portion of this substrate had been boiled for five minutes gave no ninhydrin reaction.

One half of the placental tissue thus treated was placed in a sterile jar containing 50 per cent. glycerin in water, covered with toluene and kept in the ice-box. The other half was treated as follows:

It was minced finely, dried in the oven at 80 C. (176 F.) for four hours, and then over night at 55 C. (131 F.). Next day it was ground to a fine powder in a sterile mortar and kept in a desiccator over calcium chlorid for three days. The appearance of the substrate is that of a fine, dry, brown powder which can be kept in a closely stoppered bottle without fear of autolysis or bacterial action.

The use of animal charcoal, as recorded by Kiutsi, for the purpose of removing bodies giving a positive biuret reaction was found unsatisfactory. The method was slow and tedious, fresh filters of charcoal had to be employed for every sample of urine, and often the filtrate showed a purplish tint because of coloring matter absorbed from the charcoal. As a substitute method, shaking with kaolin was tried. Experiments were then conducted to determine:

1. The amount of kaolin necessary to remove from the urine all bodies giving a positive biuret reaction.
2. The optimum amount of dry substrate to be employed.
3. The optimum incubation period.
4. The effect of the acidity or alkalinity of the urine on the reaction.
5. The effect of bacterial growth during the incubation of the urine to be tested.

As a result of these experiments, the following method was devised, and has been found to be satisfactory:

A freshly passed specimen of urine from a pregnant woman is tested for albumin by the biuret test. If the test be positive, 15 c.c. of urine are shaken with 0.3 gm. of kaolin for ten minutes in a mechanical shaker, filtered and tested again; the biuret test should now be negative. If it be still positive, the process must be repeated. Ten c.c. of biuret-negative urine are then neutralized with either 1 per cent. acetic acid, or 2 per cent. sodium carbonate solution, 0.2 gm. of dried placenta added, and the whole well shaken. The shaking I find essential. Five-tenths c.c. toluene is added to restrict bacterial growth. The mixture is incubated for twelve hours, filtered, and 5 c.c. tested by the biuret test. If negative, the remaining 5 c.c. are left in contact with the substrate, incubated for four hours longer, and tested again.

Controls of the urine of the pregnant woman without substrate, of urine from a male with and without substrate, from a nonpregnant female with and without substrate, and of the substrate in 10 c.c. of distilled water are set up and tested in the same way.

The urine of the pregnant female in contact with the substrate should give a positive biuret reaction; all the controls should give negative reactions. The color of a positive test varies from deep purple to lilac or rose in different cases. All blues and greens are negative.

Up to the present time fifty-nine cases have been examined. Of these, twelve urines tested *before* the foregoing technic had been fully developed gave the following results: One male gave a negative reaction both with the blood serum and the urine; of the eleven pregnant females, only two gave a positive reaction with the urine, although in every case the blood serum was positive. Since using the kaolin method, and adopting the precautions mentioned in the preceding paragraphs, the results have been very satisfactory.

RESULTS OF EXAMINING URINES IN FORTY-SEVEN CASES

Cases	No.	Results
Pregnant females	29	All positive
Males	6	All negative
Nonpregnant females	9	8 negative, 1 positive (fibroid of uterus)
Ectopic gestation	3	All positive.

These positive results in pregnant females were gained in the main from urines of cases estimated as from the twenty-eighth to the thirty-sixth week of gestation. Two cases were at about the third month.

It is perhaps scarcely necessary to point out that, as compared with Abderhalden's delicate and complicated serum test for pregnancy, this method is both simple and expeditious.

A DIAGNOSTIC SIGN OF GELATINOUS CARCINOMA OF THE BREAST

W. S. HALSTED, M.D.
BALTIMORE

I recall having examined within the past twelve years five cases of colloid carcinoma of the breast—cases in which the colloidal portion (or portions) of the new growth was large enough and near enough to the surface to be palpable. In all but one of these there was conveyed to the finger on testing for elasticity a peculiar sensation which in the first instance made me apprehensive lest I had ruptured a possible capsule of the nodule, although there was no apparent alteration in its size or shape.

I find it difficult to describe the tactile impression. It might be defined as a delicate swish or crush of a jellylike structure under tension, with the suggestion of a delicate bursting.

In no instance have I obtained the sensation twice in the same case, nor has any assistant felt it on making the examination before or after mine. Presumably there is lost to the physical properties of the tumor a something essential to the production of the sign.

In Case 1, a large lobulated colloid carcinoma, the sign was not observed.

In Case 2, the right mamma had been amputated for a carcinoma which in spots was colloidal. A year or two later this patient returned with what seemed to be a like growth of the opposite breast. It was faintly lobulated and in places seemed to be elastic. While I was testing, with moderate force, the resiliency of one of the nodules, the described sensation under the finger was noted. I was alarmed, thinking that I must have ruptured some portion of the tumor, and urged the patient to permit operation at once. She did not consent, and returned to her home in another city. I wrote to her afterward, but was never given the opportunity to determine the nature of the growth.

The third patient presented herself a year or two later. Nothing was observed at the first examination of her mammary tumor to recall the previous case. But on the operating table, in the course of the examination under ether, the faint but unmistakable "swish" was felt. The carcinoma proved to be of the colloid variety, and there was no macroscopic evidence of damage having been done to the tissues by the examination.

It was perhaps five or six years after this experience that Dr. Finney invited me one day to come to his clinic to examine the breast of a patient under ether on whom he was about to operate. The tumor, about the size of a guinea-egg, was, as I recall it, not unquestionably elastic. Trying to determine this particular point and while I was exercising, perhaps, rather more force than usual, the identical swishing or crushing sensation was reproduced at my finger tips. Instantly the two previous experiences were recalled to mind, and I tentatively predicted colloid carcinoma; and such the tumor proved to be.

The fifth patient, referred by Dr. Branson of Philadelphia, consulted me a few weeks ago. The tumor was unmistakably a carcinoma, hard and infiltrating. There was a suggestion of elasticity near the surface. The patient was admitted to the Johns Hopkins Hospital, April 12. On the operating table, five days later, in the course of the examination under ether, the crush or swish, the characteristic (I do not venture to say pathognomonic) sensation was felt over the elastic spot. The diagnosis of colloid carcinoma was made with considerable confidence, and it proved to be correct. The deeper part of the neoplasm was a typical scirrhus; surmounting this was an ovoid nodule, about 3 cm. in diameter, of colloid carcinoma.

In none of the cases was there recognizable any macroscopic evidence of traumatism.

Inasmuch as this sign manifested, I might say obtruded, itself unsought in the four successive cases, it is not possibly a creation of my fancy.

In each instance the unmistakable swish was a surprise. Not once had I in mind the possibility of colloid cancer until the peculiar sensation was felt.

I have not experienced this tactile impression nor have I tested for it in colloid goiter.

I shall be interested to learn if other surgeons have made this observation.

1201 Eutaw Place.

SARCOMATOUS DEGENERATION OF A UTERINE FIBROMA FIVE YEARS AFTER ROENTGEN-RAY TREATMENT FOR PRESSURE AND HEMORRHAGE *

GEORGE ERETY SHOEMAKER, M.D.
Gynecologist to the Presbyterian Hospital
PHILADELPHIA

The subject of the treatment of fibromas of the uterus by non-surgical methods is one of such importance, that all data having a bearing on the subsequent behavior of such growths should be carefully recorded. The time must of necessity be very great which must lapse in any individual case, before the final evidence can be secured as to the subsequent degenerations, for example, after the application of the Roentgen ray or radium. Of peculiar importance is the question whether the sarcomatous or other forms of malignant degeneration are less liable to occur after such treatment, or whether they occur at all.

While no exact percentage can be given, it is certain that sarcomatous degeneration is a definite risk in untreated fibroma of the uterus.

Many series of reports, especially those of aggregates made up from many sources, are almost without statistical value, as for a long time in many clinics, routine examination of all tumors was not made, only those being studied which looked suspicious to the eye.

Winter[1] in a series of 253 cases examined systematically, found 4.3 per cent. of sarcoma.

Ellice MacDonald,[2] analyzed seven hundred carefully studied cases and found malignancy complicating in 5 per cent. of all cases, though but 1 per cent. were sarcomatous. Necrotic changes were found in 8 per cent.

Certain writers have argued that after Roentgen-ray treatment no cases of malignancy have been observed. It is obvious, however, that not until the end of the patient's life, can it be stated that malignant degeneration will not occur. The Roentgen-ray treatment of fibromas has been carried out for but comparatively few years, so that it will be many years

* Read before the College of Physicians of Philadelphia, April 7, 1915.
1. Winter: Ztschr. f. Geburtsh. u. Gynak., 1906, lvii, 23.
2. MacDonald, Ellice: Tr., Sec. on Obst. and Dis. of Women, 1909, p. 93.

yet, before the final outcome of these treated cases can be known. The difficulty is further increased by the fact that those patients who have subsequent trouble after any form of treatment, operative or otherwise, usually consult other physicians. We get other men's postoperative hernias, rarely our own. It will not do, however, to infer that we never have any.

I desire to put on record as a contribution to the subject, the history of a patient known through conference with her physicians for many years, who finally developed sarcoma in a fibroid tumor, about seven years after Roentgen-ray treatment was begun, and five years after it was stopped.

The patient, Mrs. I. H., now aged 56, married, one child, one miscarriage, underwent at my hands nineteen years ago, in consultation with Dr. John H. Musser, an operation for laceration of the perineum. She then had no tumor. She was not seen again until April, 1914, when she was referred by other physicians for operation, and I removed a large tumor, which proved to be a sarcomatous degeneration of a multiple fibroid of the uterus. The following interesting history was obtained of her experiences and treatment at the hands of various physicians during the intervening years. There had been one attack of gallbladder inflammation and jaundice, in October, 1913.

The menstrual flow had remained normal until early in 1907, when it increased, and also partial suppression of urine occurred. Examination by Dr. Rachel Williams discovered a large fibroma of the uterus, tightly filling the lower abdomen, and pressing on the urinary tract. She was then subjected to electrical treatment for the tumor by an electric specialist, who writes on cataphoresis. This treatment is said to have continued for nearly a year, one or two treatments a week, with no effect observed.

In November, 1907, Roentgen-ray treatments were undertaken by Dr. Newcomet to diminish the size of the growth; the patient being referred to him by Dr. Williams. He writes that she received at this period 54 treatments of ten minutes each at 20 inches distance; spark-gap 4 inches. In spite of leather protection for the skin, considerable reaction was produced, followed by bronzing and local dilatation of vessels; which effects are, by the way, still observable. He further states that the tumor was reduced to about one-fourth of its size, and hemorrhage was controlled by April 1, 1908. Nine months later, in January, 1909, the tumor grew again to the level of the umbilicus and 11 more treatments were given by Dr. Newcomet. In November, 1909, he found the growth just above the pelvic brim. It then apparently remained quiescent until November, 1912, when it began to grow, hemorrhage reappearing in December, 1913. Dr. Newcomet refused to administer the Roentgen ray longer, and advised operation. The patient delayed, seeking other opinion, but as has been stated, finally reached me for operation in April, 1914.

On examination the bleeding was now found very dark brownish or black; there was no odor; no leukorrhea; the systolic blood pressure was 180; the patient was quite stout; the heart sounds good. The abdomen showed a number of hemorrhagic spots in the skin apparently produced by the Roentgen ray, and a number of reddish spots were scattered over the mucous membrane of the cervix and upper vagina. The tumor was round, smooth, moderately fixed, a little irregular in outline, hard, reaching to the umbilicus, no infiltration of surrounding tissue. I advised immediate removal of a growing tumor which at the patient's age of 56 had shown signs of activity and had resumed bleeding after a cessation of five years.

A very smooth recovery followed abdominal hysterectomy. There were no parietal adhesions. Dr. William Evans and Dr. Rachel Williams were present. One year after operation the patient reported herself entirely well.

Dr. Damon B. Pfeiffer, the pathologist of the Presbyterian Hospital, has kindly furnished the following report:

The specimen consists of a large, irregularly shaped uterus measuring roughly 15 by 10 cm. The greater part of the mass consists of a rounded tumor, which on section presents the appearance of a myoma. There is no sharp demarcation between the mass and the uterine wall. Several small subperitoneal nodules are also present. The uterine cavity is opened. The endometrium presents no abnormalities. The fallopian tube is distorted and somewhat thickened. The ovary appears normal.

Microscopically, the ovary is normal, the tube is moderately thickened and fibrous, presumably the result of chronic interstitial salpingitis sometime in the past. Sections from the large tumor or mass show, in some places, areas of hyaline degeneration and in other portions the growth is extremely cellular. The cells are relatively large, but vary considerably in size, appearance and nuclear content. Many mitotic figures can be seen, and at the margin of such actively proliferating areas, there can be seen at times evidences of invasion of the older and less cellular portions of the growth. There is no sign of extracapsular invasion or metastasis, but the evidences of rapid atypical proliferation above mentioned warrant the belief that sarcomatous transformation has occurred.

CONCLUSION

It is the complications of fibroid tumors which render them important. Hemorrhage; pressure; intestinal adhesions; stasis, or obstruction; pressure on the uterus or bladder; secondary renal disease; heart lesions; salpingitis; appendicitis; pregnancy, necrosis or other forms of degeneration; associated malignancy may be mentioned.

In the study of end-results time is necessary. That treatment must be advised which best eliminates most complications as well as the tumor, and which preserves, if possible, sexual characteristics by its technic. This treatment in a large proportion of cases is surgical.

1831 Chestnut Street.

UPPER BRONCHOSCOPY FOR A FOREIGN BODY IN AN INFANT THREE MONTHS OLD

Stanton A. Friedberg, M.D., Chicago

An infant 3 months of age in some manner introduced a closed safety pin into her mouth. About all the history obtainable was that the accident was followed by the appearance of some frothy secretion, after which the child fell asleep. She was very restless and could not cry aloud. On this account she was taken to a hospital, and an unsuccessful attempt was made to remove the pin. A roentgenogram showed the pin with the closed end downward about the level of the sternal notch. I saw her the next afternoon. There had been no trouble in nursing nor any marked respiratory distress. The temperature was 101 F.

The bronchoscopic tube was passed through the larynx, and the pin was seen at the lower part of the trachea, its lower portion projecting into the right main bronchus. It could not be removed through the small tube, so they were brought out together. No anesthetic was used. The temperature rose to 101.8 F. after the operation, but declined to normal within forty-eight hours. The voice returned the day following the operation.

This case is reported to emphasize the fact that tracheotomy is not necessarily indicated for the removal of foreign bodies from the air passages in infants and young children. A tracheotomy in this instance would have added an unnecessary and serious danger to the recovery of the child.

104 South Michigan Avenue.

Special Article

PRACTICAL PHARMACOLOGY *

(Continued from page 1583)

XIX

DRUGS WHICH ACT MAINLY ON THE HEART

THE DIGITALIS GROUP—(*Continued*)

STANDARDIZATION

We have no satisfactory means of standardizing the digitalis bodies; there is no chemical test for determining the amounts of the various pure principles present, and none of the biologic tests is free from objection.

The forthcoming Pharmacopeia will probably direct the standardization of digitalis bodies by means of the frog test, which consists in determining the amount required to cause the frog's heart to stop with the ventricle in systole in one hour. This test has the disadvantage of not affording a comparison of the therapeutic activities of such different members of the group as strophanthus and digitalis; for example, the amount of digitalis required to kill a frog of given weight by this method will have far greater therapeutic activity than the strophanthus required to kill a frog of the same size.

Guinea-pigs are preferred by some for standardizing these drugs, and the determination of the fatal dose by intravenous injection in cats has been suggested as affording a fairly satisfactory means of comparing the therapeutic activity of all digitalis bodies.

STABILITY

It has been generally taught that digitalis leaves and all of the galenical preparations of digitalis deteriorate rapidly despite any amount of care in preserving them. This appears to be one of the numerous errors in vogue regarding this drug, for digitalis leaves certainly retain their activity for many years with little loss, and the tincture also keeps extremely well if made with 70 per cent. alcohol. The infusion deteriorates rapidly, despite the addition of a small amount of alcohol, and should not be kept for more than a week, and preferably not more than three days in warm weather.

Among the curious misconceptions in vogue concerning digitalis is the belief that the tincture and the infusion have different therapeutic properties. The tincture represents the leaf fully, and so does the infusion when it is made properly—which, however, is not always the case.

THERAPEUTIC USES

There are few drugs which have more sharply defined uses than the digitalis bodies. They are indicated in all cases in which the tonicity of the heart is impaired, and while loss of tonicity is either the cause or the result of a large proportion of the symptoms observed in cardiac disease of long standing, there are stages of cardiac disease in which digitalis does harm. It probably finds its greatest field of usefulness in those cases of cardiac insufficiency which are induced by auricular fibrillation, and in acute dilatation, though it may cause improvement in chronic dilatation also.

It is not necessary to discuss the various symptoms which result directly and indirectly from impairment of the circulation, for serious impairment of the heart is usually attended with symptoms which direct attention to the heart at the time that digitalis is needed, and whatever the symptom which the patient complains of, whether it be difficulty in breathing, swelling of the legs or an unpleasant feeling in the region of the heart, the use of digitalis is based ultimately on its capacity for improving the heart's tonicity directly and indirectly through its causing heart-block and slowing with improved nutrition and added rest with recuperation.

Digitalis is sometimes used in the treatment of tachycardias which are not attended with auricular fibrillation, but it is seldom of benefit in paroxysmal tachycardia, especially in those cases in which the impulses arise in the ventricle, and when used in that condition its action must be watched carefully, and its administration discontinued when full therapeutic doses fail to cause improvement.

Heart-block has been mentioned as one of the effects of digitalis, and it might be supposed that this condition, when present, constitutes a contra-indication to the use of digitalis; but it is neither an indication nor a contra-indication for the drug. If a want of tonicity attends heart-block, digitalis may be used, even though it may convert a partial into a complete block.

Acute dilatation with its threat of impending death sometimes affords an opportunity for results that are positively brilliant, for occasionally such a patient will show marked improvement within a few minutes after the intramuscular or intravenous injection of strophanthin, and he may be restored to comparative comfort within a few hours.

Auricular flutter is a condition attended with an extremely rapid beat of the auricles and usually of the ventricles; digitalis converts this condition into one of auricular fibrillation, and at the same time heart-block is induced with the result that the ventricle is made to beat more slowly, in the manner already described. In some cases the ventricle is made to beat regularly and more slowly without heart-block apparently.

Digitalis bodies are contra-indicated in sinus arrhythmias, which are characterized by an irregularity of the whole heart, due to some abnormal condition in the sinus region.

It will be observed that nothing has been said in regard to the various valvular lesions as indications or contra-indications for the use of digitalis. This is because a valvular lesion alone is neither an indication nor a contra-indication for the drug. Various valvular lesions are found complicating other cardiac conditions, but so long as the heart maintains an adequate circulation it does not require digitalis whatever the lesion, and when it begins to fail owing to a want of tonicity it demands digitalis no matter what valvular lesion may exist, even aortic regurgitation being no bar to its use when loss of tonicity prevents it from maintaining an adequate circulation.

The most diverse views are held regarding the use of digitalis in pneumonia, diphtheria and other infectious diseases. There can be no question that the tonicity of the heart is frequently impaired in such conditions, but it is obvious that digitalis has no direct

* This is the nineteenth of a series of articles on useful drugs—on practical pharmacology for the general practitioner. As soon as completed, these articles, elaborated by additional subjects, will be published in book form.

action on the toxins which cause the injury to the heart. There is no reason to anticipate such excellent results from its use in these conditions as in auricular fibrillation, in which it removes the immediate cause of injury to the ventricle, and in acute dilatation, in which it inaugurates a cycle of improvement.

The pharmacologic actions of caffein and camphor have been discussed and attention has been called to the fact that we have no satisfactory explanation to offer for their use in cardiac disease.

Caffein may increase the tonicity of the heart, but it is practically impossible so to regulate the dosage that the action will be limited to that which is desired. It seems probable that any value which it may have in improving the circulation is due to its stimulation of the vagus, whereby the pulse-rate is slowed, and to its stimulation of the vasomotor centers, causing a rise of blood-pressure with the consequent improved nutrition of the heart.

It does not cause heart-block, which plays such an important rôle in the effects of digitalis in auricular fibrillation, but it may be of value in certain cases of acute cardiac dilatation, by reason of its action on the musculature.

The diuretic action of caffein results in the removal of a larger proportion of water than of salts from the circulation, and this facilitates the reabsorption of fluid from edematous tissues; hence caffein is useful as an auxiliary to the digitalis bodies in dropsical conditions; but it should be used with caution, for caffein and the digitalis bodies have synergistic actions on the heart.

Camphor stimulates the medullary centers, and it is possible that its beneficial action in cardiac disease is due to the stimulation of the vagus and the vasomotor centers.

While we are unable to state the exact dose of camphor which is suitable for use in these conditions, it is probable that much larger doses than those commonly advised will be needed, probably not less than 0.5 to 1.0 gm. (8 to 15 grains).

We would again call attention to the inadvisability of using caffein intravenously, even in urgent cases of cardiac disease, and to the advisability of injecting small doses *very slowly*, if it is so used.

DOSAGE

Examination of various posologic tables inclines one to think that this question is in a confused state because of the great differences in the amounts of digitalis bodies advised by various authorities. The reason for these differences is not far to seek. Digitalis is given for a definite action, and it is given until that action is induced, or until the appearance of toxic symptoms indicates that the limits of safe dosage have been approached. Patients vary rather widely in the amounts required to produce a given effect, dependent somewhat on the way the drug is given.

The single dose of digitalis leaf is given as 0.065 gm. (1 grain), while that of the tincture is 1 c.c. (15 minims), which represents 0.1 gm. (1.5 grains) of the leaf. This inconsistency probably arises from a mistaken idea that the tincture does not represent the full activities of the leaf. The dose of the infusion is given as 8 c.c. (2 fluidrams), which corresponds closely with the dose of the tincture, but there is more ground for the belief that the infusion does not always represent the leaf fully.

It seems certain that we must sooner or later revise our methods of administering digitalis and its preparations. An adult who has not had any previous medication will usually require a total of about 1 to 2 gm. (15 to 30 grains) of digitalis of good average quality, or the equivalent of the tincture—from 10 to 20 c.c. (from 2.5 to 5 fluidrams)—to produce the full therapeutic effects. Nevertheless we do not advocate such single doses as 10 c.c. (2.5 fluidrams) of the tincture.

No one should administer any dose of digitalis without observing the effects carefully, and stopping the administration or diminishing the dose when the therapeutic effects are induced, or when toxic symptoms indicate that the limits of therapeutic dosage are being approached. The following effects are to be especially noted as indicative of digitalis action, and as signs for diminishing the dose or discontinuing it altogether.

Slowing is fairly common, but it is not an invariable result, and disaster has resulted from persisting in the administration of digitalis because the rate failed to show the influence expected of the drug, for the rate may become more rapid with other toxic symptoms without preliminary slowing.

When the auricles are fibrillating, the rate at the apex and that of the wrist-pulse should be determined; the difference, known as the "pulse deficit," indicates the number of beats which are too feeble to be felt at the wrist, and in general denotes the relative efficiency of the heart. With improvement in the force of the heart-beat a larger proportion of the apex-beats can be felt at the wrist, so that the pulse deficit decreases, and the wrist-pulse may actually increase in rate, while the apex-beats diminish as the heart's condition improves with digitalis action. When all beats are felt at the wrist the maximum digitalis action is approached or reached. One should never make the mistake of counting the wrist-pulse alone in such cases.

Partial or complete heart-block is a fairly common symptom of digitalis action; coupled rhythm, or bigeminal pulse, during digitalis medication calls for its immediate discontinuance. The substitution of a regular rhythm for an irregular one also indicates therapeutic action.

While these signs of digitalis action are commonly attended with improvement in the patient's condition, some of them, the coupled beat, for example, may be observed even while the patient grows worse. The clinical symptoms alone cannot be depended on to show the limits of dosage.

The following clinical signs of improvement are valuable as showing that enough digitalis has been given, or that the dosage may be reduced: improvement in breathing (a patient who has been forced to sit up and who breathes with difficulty begins to breathe more easily and is able to sleep while lying down, while the cyanosis diminishes); marked increase in the amount of urine secreted while the intake of water is limited, and a simultaneous disappearance of edema; the diminution or disappearance of epigastric pain, and especially of tenderness and pain along the margin of the liver; the disappearance of nausea and vomiting. The latter symptom calls for a word of discussion because it is frequently misunderstood.

Venous congestion due to cardiac insufficiency is commonly attended with gastric disturbances, includ-

ing indigestion, nausea and vomiting, and since one comes under treatment as his symptoms grow worse, it often happens that nausea and vomiting begin or are accentuated very soon after beginning digitalis medication, and they are then commonly attributed to the local action of the digitalis. It must be emphasized that *digitalis has no such local action on the stomach in doses which are used therapeutically.* If the administration is continued the nausea and vomiting will frequently stop with the appearance of other signs of improvement. One must therefore not take nausea and vomiting as a sign of the full digitalis action in the absence of the other signs mentioned above when it occurs early in the administration.

The following applies only to patients who have not had medication with any digitalis body during the previous two weeks:

One who suffers from cardiac insufficiency attended with auricular fibrillation may take 5 c.c. (1¼ fluidrams) of a standard tincture of digitalis by the mouth at the first dose, and 1 c.c. (15 minims) every four hours thereafter until some signs of digitalis action are obtained, provided he can be watched carefully and the medication is discontinued at once when they appear. This will serve to induce the therapeutic effects in suitable cases within from twelve to twenty-four hours.

Strophanthin is suited only for intramuscular or intravenous injection, and is especially useful where immediate action is essential, as in acute cardiac dilatation. The single and daily intravenous or intramuscular dose is from 0.5 to 1 mg. ($\frac{1}{120}$ to $\frac{1}{60}$ grain), preferably in 4,000 parts of normal salt solution, as concentrated solutions may cause considerable pain.

We believe that strophanthus and the tincture are unsuited for oral administration, for the reasons already given. The tincture may be given intramuscularly when strophanthin is not available, but the intramuscular dose of the tincture must be carefully regulated, for a single dose of 2 minims has caused death in a patient who had previously taken digitalis. It must be borne in mind that all digitalis bodies are strictly synergistic, so that half a dose of each of any two digitalis bodies constitutes a full dose.

The single or daily intramuscular dose of tincture of strophanthus is about 0.1 gm. (1½ minims), which should be well diluted with normal salt solution. This dose should not be repeated within twenty-four hours. Even this dose would be dangerous immediately after other digitalis medication.

The dose of true digitalin has never been determined, but it is too expensive for general therapeutic use; digitalein is not obtainable in pure form; consequently its activity is too variable to justify its therapeutic use. Digitoxin is somewhat less variable in activity, but the physical difficulties in the way of its use interfere with its intravenous and intramuscular injection; it can be dissolved in alcohol or made into pills or tablets and used by the mouth. The dose is about 1 mg. ($\frac{1}{65}$ grain), and 0.5 mg. ($\frac{1}{125}$ grain) may be given thereafter at intervals of four hours, provided the patient is watched carefully for the signs of digitalis action, and the administration discontinued when these are observed. It is an extremely dangerous drug in the hands of those who are not skilled in the treatment of cardiac disease. The action of digitoxin is very persistent.*

* Owing to lack of space the materia medica of this series has been omitted. It will be included when this series is published in book form.

PROPRIETARY PREPARATIONS

The well-known disadvantages of all the digitalis bodies, especially their variability and their tendency to cause nausea and vomiting, have led to the introduction of numerous proprietary preparations, nearly all of which have been exploited with extravagant praise.

Digalen is claimed to be a solution of amorphous digitoxin, but no such substance as amorphous digitoxin is known to science, and several investigators have submitted evidence that digalen is either a solution of impure digitalein or of another substance with actions similar to it.

It is sometimes claimed that the defatted tincture of digitalis is less actively emetic than the official tincture. The therapeutic dose of the official tincture of digitalis contains about 6 mg. ($\frac{1}{10}$ grain) or less of the fat—not enough to account for the emetic action; hence if a defatted tincture is less actively emetic than the official, it must be because it is a weaker preparation, containing less of the active principles of digitalis.

Digipuratum is an extract of digitalis from which inert matter has been removed and sugar of milk added to make it of the same degree of activity as the leaf. It was formerly claimed to be less actively emetic than the official leaf, but the claim is not substantiated by the results of pharmacologic experiments. It is many times more costly than the official leaf.

Digipoten is much like digipuratum.

Cumulation, so called, or persistence of action, is an inherent property of every digitalis body. Every digitalis body causes nausea and vomiting in overdoses, and no proprietary substitute has as yet been offered which is less nauseant in proportion to its therapeutic activity than digitalis.

In some cases persistence of action is a decided advantage in that, when once the action on the heart is induced, it obviates the necessity of further medication while the heart continues to improve.

The physician who uses digitalis leaf or tincture of good quality—and there is no difficulty in getting these of good quality—can have the satisfaction of knowing that with these he can accomplish all that can be accomplished with any digitalis preparation whether it be official or proprietary, except in those infrequent cases in which intramuscular or intravenous injections are required to avoid loss of time, and in such cases the official strophanthin may be used.

Solution of strophanthin is now available in ampules containing 1 mg. ($\frac{1}{60}$ grain) each, for intravenous or intramuscular injection.

Unfortunately, we have no pure principle from digitalis itself which is suitable for subcutaneous, intramuscular or intravenous injection, but strophanthin has an exactly similar qualitative action on the heart and it may be used for intramuscular injection.

The solution should be injected deeply into the lumbar muscles, but not subcutaneously, as the latter is very painful.

Only one dose is usually administered in twenty-four hours by this method. It is not adapted for continuous administration, but it is a life-saving measure in acute cardiac dilatation.

(To be continued)

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THE VARIETIES OF PNEUMOCOCCI CAUSING LOBAR PNEUMONIA

Although the causative organism of lobar pneumonia is definitely known, much remains to be learned regarding the mode of infection and the nature of the disease. With the discovery of pneumococci in the mouths of normal individuals, the belief became prevalent that pneumonia was an autogenous infection depending on a change of virulence of these mouth pneumococci, or a decrease in resistance on the part of the host. Proof of this theory is lacking, however, and evidence now at hand indicates that the strains of pneumococci causing the infection in 80 per cent. of cases differ inherently from those inhabiting the mouth under normal conditions. Furthermore, it seems probable that pneumonia is a contagious disease and is acquired by contact with patients suffering from the disease, or with true pneumonia carriers.

Recent investigation[1] along lines suggested by Neufeld indicates that the pneumococci from cases of lobar pneumonia may be divided into four groups by immunologic tests, namely, protection of animals against infection, and by agglutination with the serum of immunized animals. In three of these groups the lines are well defined, while the fourth group is made up of different strains which show no relation to one another by tests with specific immune serum. In New York City, Dochez and Avery[2] during the past two years did not find any strain which did not fall into one of these four groups. These investigators state that similar results were obtained by Walker in Boston and Lewis in Philadelphia. In a study of strains obtained from lobar pneumonia occurring in South Africa, they also found a coincidence in three groups, but none like those in the fourth group.

Is it possible that this grouping of pneumococci is only temporary and that the organism under the influence of environment may change into other groups? Dochez and Avery were unable by frequent animal passage, by growth on a variety of mediums, or by storage in a dry state to effect a change of one type into another. From the deep sputum in tuberculosis, Lyal[3] isolated pneumococci of the mouth class only. Since in pulmonary tuberculosis the pneumococci live in the lung under circumstances somewhat similar to those of pneumonia, one would expect a change into the virulent type if such a thing were possible. The transmutation question is far from settled, but the investigators mentioned are impressed with the constancy with which the pneumococci groups retain their characteristics.

In a study of the pneumococci in the mouths of healthy persons unexposed to pneumonia, Dochez and Avery did not find a single strain belonging to any of the three types of pathogenic cocci. All belonged to Type 4, which is of very low virulence and responsible for only about 20 per cent. of pneumonia. They also found that after a patient recovers from lobar pneumonia, the virulent type of organism is soon replaced by the nonvirulent type commonly found in the mouth. In one instance the pneumococcus of the virulent type disappeared as early as the twelfth day. In the instances in which the organism persisted for some time, there was always a delayed resolution. Virulent forms of pneumococci, however, were found in the mouths of attendants and others intimate with pneumonia patients. Also in these cases the strain isolated from the mouth of the attendant was always of the same type as the one isolated from the patient. Hence such persons may be regarded as true pneumonia carriers. It is important also to note that in addition to the presence of virulent organisms in the mouth, other conditions in the mouth must be suitable before pneumonia can develop.

The manner in which the biologic types of pneumococci may arise, and the conditions under which newly acquired pathogenic qualities may be preserved are illustrated in the recent work in South Africa. Pneumonia has been epidemic among the mine laborers of the Rand for several years. Many natives are brought there from tropical African regions where pneumonia is unknown and the natives are undoubtedly highly susceptible to it. When they come into contact with the white people, among whom pneumonia is not uncommon, many of the blacks are stricken with the disease. Lister studied the organisms in these cases and found that they fall into five groups easily recognized from one another by immunologic tests. Three of the groups correspond with the three pathogenic types studied by the New York observers, while two groups have not been encountered elsewhere, and probably are peculiar to South Africa. This is perhaps what happens: Among the whites on the Rand are sporadic cases of pneumonia, due as sometimes in this country to the pneumococcus in the mouth, that is, organisms of the slightly virulent Group 4 of Dochez and Avery.

1. Dochez, A. R., and Gillespie, L. J.: A Biologic Classification of Pneumococci by Means of Immunity Reactions, The Journal A. M. A., Sept. 6, 1913, p. 727.

2. Dochez and Avery: Jour. Exper. Med., 1915, xxi, 146.

3. Lyal: Jour. Exper. Med., 1915, xxi, 146.

In the susceptible South African this organism produces pneumonia readily, and, since there is no racial immunity to this disease, it is passed on from person to person, and a new pathogenic type of organism is evolved. It is possible that the new types, after several generations among the South Africans, may attain sufficient virulence to become infectious for the white race, which at present is relatively immune.

The common assumption that pneumonia is an autogenic infection is entirely out of accord with recent observations. On the other hand, the evidence indicates that pneumonia is a contact disease in 80 per cent. of the cases, the infection being acquired from patients suffering with the disease, or from healthy carriers. These pathogenic strains are divisible into four groups by immunologic tests, and these groups do not differ in different parts of the world. Although these groups are apparently quite stable, the South African observations suggest that new types of pathogenic organisms may develop when there is no immunity in the race or races affected.

THE VASOMOTOR CENTER

The blood vessels and the functions associated with them are at present conceived to be dominated in large measure by a nervous control which has its center in the medulla. The behavior of this mechanism, which is responsible for the maintenance of arterial tone and for the regulation of arterial blood pressure, is a matter of everyday importance to the physician. By it the blood supply and, accordingly, the performance of the organs and tissues are influenced in large measure; while many of the drugs which are employed to change the vascular conditions have their actions interpreted from the standpoint of how they influence the vasomotor apparatus. The normal control of the latter is adjusted along with the influence excited by variations in the functions of the heart so as to maintain a blood supply suitable to the needs of the different parts of the organism. It is commonly believed that all of the vessels in the body are ordinarily kept in a state of tonic contraction by impulses arising in a localized region of the medulla. That portion of the nervous system which is concerned with vasomotor effects is, however, also played on by impulses coming from various regions. Whether the state of continued activity which is responsible for the so-called vasomotor functions could be produced in the absence of all the stimuli which play on it from all portions of the body, as well as from the higher centers of the brain, is not easily decided. In any event, the reflex features of the vasomotor activities are conspicuous.

The belief that both the arterial tonus and the vasomotor reflexes are controlled by the same master cells, the so-called motor center, has been questioned by Porter.[1] He summarizes the facts by reminding us that it is known that stimulation of the central end of many nerves causes reflexly a rise or fall in the blood pressure, and that the central mechanism for this purpose lies in the bulb near the calamus scriptorius, since the destruction of this region puts an end to vasomotor reflexes. It is known, further, that the moderate constriction or tonus of the blood vessels is maintained by impulses that stream continuously from the same region, for the blood vessels dilate when the nerves connecting them with the bulb are severed or when the vasomotor region is destroyed. This reflex and this tonus are fundamental truths in the physiology of the circulation.

If both the maintenance of arterial tone and the vasomotor reflexes are controlled by the same apparatus, and if, as has frequently been contended, the tonus itself is a reflex incited by an unceasing flow of impulses from the periphery, any influence which will affect the reflexes should alter the tonus. Furthermore, a measurement of the vasomotor reflexes should reveal the condition of the physiologic apparatus for the maintenance of both functions if the reflex and tonus are the results of the energy of one and the same nerve cell. Changes induced by drugs in the two functions of the center should be in the same direction. The newest experiments by Porter[2] in the Laboratory of Comparative Physiology at the Harvard Medical School show that curare, for example, may more than double the sciatic and the depressor reflex change in blood pressure, while the arterial tonus is left substantially unchanged. In Porter's opinion it seems impossible to reconcile these results with the present conception of the vasomotor center. Unless this can be done, he believes it will be necessary to accept the existence of a vasotonic and a vasoreflex center, related but separable.

LIGHT-STROKE

There is an Italian proverb, "All diseases come in the dark and get cured in the sun." Interpreted from the standpoint of modern bacteriology and sanitary science, this statement has something to commend it, for light is today recognized as a potent defense against pathogenic micro-organisms by virtue of the destructive action which it exerts on them. Light, however, unquestionably has pathologic as well as physiologic effects on higher organisms. Under ordinary circumstances, we are exposed to sunlight of moderate or moderated intensity for limited periods. Exposure to intense sunlight, on the other hand, is by no means an innocuous procedure. Freckles are a familiar indication of a physiologic response to light, since they make

1. Porter, W. T.: The Relation of Afferent Impulses to the Vasomotor Centers, Am. Jour. Physiol., 1910, xxvii, 276.
2. Porter, W. T.: The Vasotonic and the Vasoreflex Center, Am. Jour. Physiol., 1915, xxxvi, 418.

their appearance on those parts of the body which are exposed to the sun's rays. Predisposed individuals react with more pronounced cutaneous symptoms under conditions in which sunlight is believed to play a rôle as a causative agent. Indeed, the skin is not the only organ which may react.

In this connection, the phenomenon of sunstroke is at once suggested. This term is, however, subject to much confusion and misconception. Some of the symptoms attributed to it are, without question, associated with heat exhaustion induced by elevated temperatures. There is some evidence in medical literature of the possibility of what Manson has termed sun traumatism, in which the heat regulation may not be alone at fault; for precisely similar effects have not been observed after exposure to heat from such artificial sources as furnaces. In so-called sun traumatism the morbid state is characterized as a rule by sudden death occurring without a warning. The sense of distress in a hot sun is not precisely like that provoked by a hot fire. This justifies one in raising the question as to whether the sun light as such may not produce serious pathologic consequences, particularly if the subjects have not become gradually habituated to sun exposure.

The photodynamic action of certain organic substances, to which attention has been called of late, may have a bearing on the problems raised by some of the pathologic effects of light. It has been shown that injection of suitable sensitizing compounds into albino mice (which lack skin or hair pigments to protect them against the direct action of the light rays) renders the animals peculiarly irritable when kept in the light, though they show no untoward effects in the dark. Hematoporphyrin, a derivative of the pigment of the red blood corpuscles belonging to the group of investigated photodynamic substances, is of special interest because it is actually known to arise in the animal body under pathologic conditions. The symptoms which the animals treated with hematoporphyrin develop in the light are not due to any inherent toxicity of the compound itself. They ordinarily consist of lesjons of the skin, accompanied by subcutaneous edemas and other severe effects. These may assume an acute or a chronic form and are not infrequently fatal in their experimental outcome.[1] In trials on himself, Meyer-Betz[2] has actually demonstrated the photosensitizing effect of hematoporphyrin on man. The most recent progress in this field is represented by Hausmann's ability to sensitize animals with porphyrins to such a degree that profound reactions are produced immediately on exposure to light.[3] In his earlier work, to which reference has already been made, the cutaneous symptoms usually were the first manifestations of abnormality, disturbances of the central nervous system making their appearance much later, if at all. By Hausmann's new technic it is possible to render animals so responsive to the effects of light that as soon as they are exposed to the rays they promptly enter into a narcosis terminating fatally in a few minutes. By treatment with the light of a quartz lamp, suitably prepared mice manifest the chronic forms of this sensitization. The ultraviolet light is also concerned in the change. Brief treatment with light from a quartz lamp may lead to necrosis.

This intensely acute mode of death by exposure to light has been expressively designated as light-stroke (*Lichtschlag*) by Hausmann to distinguish it from the manifestations of true heat-stroke. It offers an experimental analogy, perhaps, to the obscure harmful effects of sunlight which still await a rational scientific interpretation.

1. Hausmann, W.: Die sensibilisierende Wirkung des Hämatoporphyrins, Biochem. Ztschr., 1910, xxx, 276; Strahlentherapie, 1913, iii, 112.
2. Meyer-Betz: Deutsch. Arch. f. klin. Med., 1913, cxii, 476.
3. Hausmann, W.: Ueber die sensibilisierende Wirkung der Porphyrine, Biochem. Ztschr., 1914, lxvii, 309.

THE RECRUDESCENCE OF TYPHUS

Civilization is only a thin crust, covering possibilities of relapse into savagery. Long ages have been required to bring civilized man by slow and painful stages to his present condition. Only a few months are required for him to relapse into the condition of barbarism from which he emerged. In times of great disaster, when the conventions of civilized society are removed, man again becomes an individualist, striving like primitive man or like the beasts of the jungle for food and shelter and even for life itself, and ruthlessly abandoning any refinements or customs which might impede him. Under such conditions, he easily reverts to the habits of his former savage state. Even the diseases of barbarism return.

A striking illustration is the reappearance of typhus fever in the war-swept countries of Europe. From the plague of Athens as described by Thucydides, down through the ages, typhus has always appeared at times of disaster. Always the companion of war and misery, known at different times by its old names of camp fever, siege fever, famine fever and jail fever, it raged all over Europe during the Napoleonic wars, only to die out in later years so completely as to be almost forgotten. "The history of typhus," says Hirsch, "is written in those dark pages of the world's history which tell of the grievous visitations of mankind by war, famine and misery, of every kind." Murchison says that a complete history of typhus would be the history of Europe during the last three and a half centuries. Clemow, in his "Geography of Disease," says that "in the earliest ages of the world's history, typhus accompanied famine, sieges and wars." Yet both civilization and science had practically forgotten it. All authorities of the present generation have described it as a rare disease. Several generations of medical men grew up and died with hardly any knowledge of it. So completely was it forgotten

that Ricketts was obliged to go to Mexico for material to study it, while a few cases which appeared in the tenement districts of New York were not recognized and were widely discussed as a possible new disease. Yet six months of war with its accompanying horrors bring back mankind's old enemy, the companion of famine, rapine and barbarism in a thousand wars.

This relapse into barbarism, hopeless though it may be, is robbed of at least a part of its horrors, so far as typhus is concerned, by the scientific advances of the last decade. We know today what in previous wars was not even suspected, that typhus is transmitted only by the louse, which thrives in times of squalor, congestion, confusion and despair, and that cleanly habits, frequent bathing and changing of clothing and liberal use of insecticides will prevent its development and spread. Thanks to the work of Ricketts, Wilder, Anderson and Goldberger, this age-long scourge has lost its terrors. Only in those countries which are so hopelessly war-ridden as to make decent living impossible is there any excuse for the presence of this disease. When the present war is over, it will again disappear, only to reappear again, as it always has and always will so long as supposedly civilized nations resort to wholesale murder and destruction as a method of settling their difficulties.

DIABETES WITHOUT HYPERGLYCEMIA

Although no age is exempt from the incidence of diabetes, it is generally recognized that the disease runs a very rapid and almost invariably fatal course in young persons. The prognosis has usually been based, in the past, on a consideration of the period in life at which the symptoms first manifest themselves. During the youthful period a strict carbohydrate-free diet frequently fails to bring about a complete disappearance of sugar from the urine; and the ketonuria accompanying these severe types cannot always be made to disappear even when a liberal allowance of carbohydrate is permitted in the ration. The final characteristic death in coma is familiar to every practitioner.

Dr. E. Frank[1] of Minkowski's clinic in Breslau has called attention to a relatively innocuous type of diabetic disease found in younger persons and designated as renal diabetes or, if one prefers to avoid the implication of the pathogenic factor, as diabetes without hyperglycemia. The establishment of this clinical entity[2] is due to the modern investigations of the sugar content of the blood in health and disease.[3] There is no longer any doubt that the renal excretion of sugar in true diabetes mellitus is associated with an unduly high level of circulating sugar in the fluids of the body. The normal sugar content of the blood plasma fluctuates at about 0.1 per cent. glucose. It may temporarily rise to a considerable height, even to nearly 0.2 per cent., without leading promptly to glycosuria. On the other hand, if sugar is found in the urine under conditions which point to no hyperglycemia, and perhaps even show a normal level in the blood, the indication of a so-called renal diabetes is present. Before the advent of clinical blood-sugar estimations in man, the determination of this form of disease was based largely on the occurrence of sugar in the urine rather unvarying with the carbohydrate intake in the diet. In Klemperer's original suggestive case, a patient with chronic nephritis excreted 0.35 per cent. of glucose without any accompanying hyperglycemia; nor did the latter occur even after the patient was fed on bread and glucose. In fact, a hypoglycemia was noted. An involvement of the kidney with evidences of nephritis has been regarded as a further essential condition for renal diabetes in man.

That damage to the kidneys can lead to the elimination of sugar is abundantly testified by the modern studies on "kidney poisons," such as salts of uranium, chromium or mercury. In relation to the transitory glycosurias of pregnancy it is to be recalled that evidences of mild nephritic involvement are commonly present. Therefore, when one meets a mild glycosuria which exhibits sugar variations that bear no obvious quantitative relation to the diet, which rarely exceeds an output of 20 grams per day even with an abundant ingestion of carbohydrate, and which is present in an individual exhibiting symptoms of neurasthenia or mild albuminuria, the suspicion of a renal diabetes must be aroused. The examination of the blood plasma, particularly during a period of actual glycosuria, completes the data needed for a decision.

It will come as a surprise to many to learn from an experienced observer of diabetes that the renal type here described is not uncommon in the period of adolescence. The importance of recognizing it in a discriminating way is manifold. From the standpoint of treatment, restriction of carbohydrate is not called for. There is no tolerance to be established and no hyperglycemia to be overcome. The complications of true diabetes in older persons do not occur; for there is no excess of circulating sugar to induce the manifestation of pruritus, furunculosis, cataract, retinitis, etc. This is likewise true of the non-diabetic glycosuria that is seen in pregnancy. If renal diabetes is to be looked on as a relatively harmless anomaly, the question of its status in the hands of life insurance experts remains to be ascertained. Whether or not the significance of these glycosurias without hyperglycemia is as great as Frank would have us believe remains to be seen. We must always become alert when reasonable provocations are presented.

1. Frank, E.: Ueber harmlose Formen der Zuckerkrankheit bei jüngeren Menschen, Therap. d. Gegenw., 1914, November, p. 439.
2. Two Theories of Diabetes, editorial, THE JOURNAL A. M. A., March 28, 1914, p. 1023; Clinical Data of Human Renal Disease in Elucidation of Kidney Function, Jan. 23, 1915, p. 346.
3. The Variations in the Content of Sugar in the Blood, editorial, THE JOURNAL A. M. A., Jan. 10, 1914, p. 131; Adrenal Glycosuria in Man, March 21, 1914, p. 938; Dietary Treatment and the Sugar Content of the Blood in Diabetes, Aug. 22, 1914, p. 688; Sugar Utilization by Diabetic Organs, Current Comment, Dec. 12, 1914, p. 2139.

NEW CHARGES AGAINST THE INSECTS

Inherited traditions and slowly acquired experience usually are factors of dominating importance in determining the point of view acquired by the average person. The physician, guided by the same impulses and converted to the slowly evolved theories of the transmission of infectious disease from place to place and man to man by the transport of a specific infectious micro-organism, seemed almost baffled at first when the rôle of insects as carriers of infection was suggested to him. The splendid investigations of recent years which have disclosed the relations of insects to malaria, yellow fever, bubonic plague and sleeping sickness have awakened the greatest admiration and at the same time have created the utmost surprise at what was earlier an unexpected and unsuspected mode of contagion. A trained entomologist, on the other hand, accustomed to see insects and study their habits, has expressed his surprise that it should have required so much investigation to establish a conviction regarding the function of such animal species as carriers of disease. When we stop to consider, he remarks, we have long been familiar with the fact that many insects regularly act as definite agents in the dissemination of living organisms much larger than disease germs, namely, the pollen grains of flowers.[1]

The striking results already demonstrated in respect to the carrier activity of a few omnipresent animal forms, notably mosquitoes, fleas, bedbugs and house flies, inevitably raises the question as to the possible epidemiologic significance of other species of insects which may be less abundant but are, to quote Professor Wheeler, of much more generalized or more versatile behavior, and whose contact with man may be merely occasional or confined to restricted localities. In this group he includes cockroaches, ants and bees. Their rôle is as yet purely conjectural; but it is of no little interest to consider the possibilities as they present themselves to one trained to observe the versatile habits of insects and thus to recognize more readily the opportunities for infection to which the sanitarian must give heed.

That an insect which will devour any sufficiently soft substance, from human foods and the feces of other cockroaches to glue, grease and water colors, and live by preference in the cracks of the floors and walls of houses, bakeries, restaurants, sugar refineries and tanneries, where their bodies come into contact with the filth and refuse that necessarily accumulate in such places, should carry a host of germs about, on and in their bodies and be able to infect our foods, is certainly not surprising. Thus reads the warning which Wheeler[1] has expressed in respect to the omnivorous cockroach. As a matter of fact, Longfellow[2] has already reported that it is easy to cultivate from the roach's feces with undiminished virulence such organisms as the diphtheria bacillus, the pneumococcus and the meningococcus. He asserts that roaches probably also feed on tuberculous sputum and disseminate the bacilli in the feces as readily as the house fly.

Ants, which are often abundant in houses and are readily disseminated by commerce, sometimes become a pest to the housewife, particularly when they get into the stores of food. They have not escaped suspicion as disseminators of pathogenic micro-organisms. In discussing some of the Panamanian ants, Dr. Darling[3] has remarked: "It would seem as if there were not a point on the earth's crust within the Tropics that is not carefully inspected within the course of an hour by some industrious, persistent and inquisitive ant." The peculiar method by which ants feed is not generally understood. They live on liquid food only. When they ingest semisolid or minute solid particles, the fluid is pressed out of them and the residual little dry pellet subsequently spit out of the subpharyngeal pocket. Wheeler points out that it thus becomes possible for ants to spread disease in three different ways: first, simply by walking over or into human food, as has actually been demonstrated by Darling; second, by dropping into it infected hypopharyngeal pellets, and third, by contaminating it with their germ-laden feces. There also are species of ants which sting severely, one being known in the West Indies as the "fire ant."

Finally the bees, lauded for centuries by poet and prose writer alike, have not escaped the accusation of suspicion. Wheeler has observed the stingless bees of the genus *Trigona* visit collections of garbage and human excrement in the canal zone, presumably gathering foreign substances which they knead into the cerumen cells in which they store honey eagerly collected for food by the natives in many parts of tropical America. According to Wheeler, there are records of intestinal disorders or even death following the eating of such honey. The suggestion of possible contamination with pathogenic organisms collected by filthy insects is patent.

Future investigations will doubtless reveal more instances of "concatenation of organisms with interlocking activities" such as are now known in the sequences ratflea–plague bacillus–man, and mosquito–malarial plasmodium–man. Wheeler has accordingly defined the sanitarian as an economic biologist who applies in practice the results of a study of such interrelationships in which not only man, but also some parasitic or pathogenic organism is involved.

1. Wheeler, W. M.: Ants and Bees as Carriers of Pathogenic Micro-Organisms, Am. Jour. Trop. Dis., 1914, ii, 160.

2. Longfellow: The Common House Roach as a Carrier of Disease, Am. Jour. Pub. Health, 1913, iii, 58.

3. Darling: The Part Played by Flies and Other Insects in the Spread of Infectious Diseases in the Tropics, with Special Reference to Ants and to the Transmission of Tr. Hippicum by Musca Domestica, Tr. XV Internat. Cong. Hyg. and Demography, Sec. V, Washington, 1913.

After all the direful accusations which are brought to bear upon our insect neighbors, it is refreshing to recur to the well-known lines of that élite physician, Oliver Wendell Holmes, in his poem "To an Insect":

I love to hear thine earnest voice,
Wherever thou art hid,
Thou testy little dogmatist,
Thou pretty Katydid!

. . . . . .

Peace to the ever-murmuring race!
And when the latest one
Shall fold in death her feeble wings
Beneath the autumn sun,
Then shall she raise her fainting voice
And lift her drooping lid
And then the child of future years
Shall hear what Katy did.

Current Comment

ALCOHOL IN THE EUROPEAN ARMIES

The European War, subjecting millions of men to the irregularities and exposures of life in field and camp, has naturally revived interest in and furnished new material for the discussion of many old problems. Among these problems is that connected with the use of alcohol by the soldiers. The time has passed when alcoholic liquors are to be regarded as inseparable from warfare and essential for military activities. Efficiency is now the prime consideration. Since the last great war, scientific research has greatly increased our knowledge of the effects of alcohol on the human body. While the physiologist has not as yet spoken the last word on this subject, the overwhelming preponderance of scientific evidence is in favor of the proposition that the use of alcohol, in any amounts, large or small, tends to impair muscular coordination, to dull the special senses, to retard muscular and nervous reactions and mental processes, and to reduce efficiency in any work requiring rapid and accurate mental or physical effort. The question still open to discussion is whether, in times of unusual exposure, strain and exertion, the temporarily stimulating effects of alcohol are sufficiently valuable to compensate for its undesirable results. Evidently the military authorities of Europe think so, or are still influenced by custom or tradition, since in each army the regulation ration of alcohol is still provided. In the English Army, 2½ ounces of rum are issued to each man twice a week. For men in the trenches, this allowance is increased to 3 ounces twice a week under ordinary weather conditions and to 2½ ounces daily in very bad weather, making a minimum of 5 ounces a week and a maximum of 17½ ounces. The regular ration of 2½ ounces is estimated to contain 25.5 grams of alcohol. The French soldier receives daily 50 grams of rum containing 20 grams of alcohol. The German soldier is allowed 1,793 grams of beer and 20 grams of brandy a day. The beer, which is of the ordinary lager variety, has a low alcohol content of only about 3.5 per cent., but this quantity would amount to a total of 70.7 grams of actual alcohol a day. Austrian soldiers receive each day 0.5 liter of wine, equivalent to 40 grams of alcohol. These figures are from the *British Medical Journal*. The physiologic effects of alcohol on military efficiency would probably not be so clearly apparent in the army as in the navy. The modern battleship, cruiser and submarine have become marvels of mechanical complexity and delicacy. The soldier in the trenches might take the maximum German ration of 70 grams of alcohol a day without impairing his ability to handle his rifle or manipulate a machine gun. Whether the members of the aviation corps, the artillerymen charged with handling the heavy guns, or the signal men, on whose quickness and accuracy of vision much might depend, could maintain the highest efficiency on a daily allowance of alcohol remains to be proved. Certainly, there is abundant testimony on the part of naval experts to show that alcohol diminishes the accuracy of the gun pointer on the battleship and so reduces the number of probable hits. "Dutch courage" has heretofore been regarded as an indispensable equipment of warfare, and alcohol has been looked on as the ally rather than the enemy of the fighting man; but the present war will reverse the opinions of the civilized world on a good many questions, and it is possible that the indispensability of alcohol in the army may be one of them.

HOW MANY DRUG ADDICTS ARE THERE?

Since the passage of the Harrison Narcotic Law, numerous statements have appeared in newspapers and medical journals regarding the number of drug addicts in the United States. Most of these statements are mere guesses, no accurate data existing on which to base any careful estimates. Certainly the maximum figures given by some writers are greatly exaggerated. In a recent issue of the *Scientific American*, Lucius P. Brown, food and drug commissioner of the state of Tennessee, furnishes data on which to base a more or less accurate estimate. From figures derived from the operation of the food and drug laws of Tennessee, Commissioner Brown estimates that there are approximately 5,000 drug addicts in that state. As Tennessee comprises about 2⅓ per cent. of the entire population of the country, this would indicate that there are about 225,000 drug addicts in the United States. "But," says Mr. Brown, "Tennessee being an agricultural state and therefore decidedly more free from such addicts than those states where the pressure of modern life is harder, we should add 10 per cent. at least to this number on the assumption that the drug addicts throughout the country will average 10 per cent. higher than in Tennessee, giving in round numbers 247,000 drug victims for the entire country." On these figures, he concludes that 250,000 is a maximum estimate, and that the addicts annually use about $6,500,000 worth of drugs unnecessarily. These figures, as Mr. Brown says, are bad enough, but they are very different from the two or two and one-half million drug addicts which

have been claimed by some sensational writers. This estimate is interesting, though, being based on figures from a single state, it must be regarded as only an approximation.

NEIGHBORHOOD EDUCATION IN NEW YORK

Public education is now recognized as an indispensable part of any health promotion program. Whether the organization be municipal, state or national, some method is necessary whereby the salient facts may be presented and the proposed work outlined to the public. Many of our state boards of health have developed elaborate and effective methods for educating the people of the state on disease and its prevention; only a few of our larger cities have undertaken to do so. A marked recognition of the growing demand for such work is the recent creation, by the Department of Health of New York City, of a Bureau of Public Health Education, in charge of an experienced whole-time man, carefully chosen after a civil service examination. One of the recent innovations inaugurated by this bureau is the publication of a series of neighborhood bulletins for use in different quarters of the city. It is a significant commentary on the growing complexity of our largest city that pamphlets which are of great value in one part of New York are practically useless in another. The recognition of this fact and the effort to meet it by preparation of special pamphlets for each section is an evidence of the careful study that is being given to the problem and the effort that is being made to adapt methods to needs and conditions. Physicians of the middle ages dreamed of a panacea, a single marvelous remedy which would cure all diseases. But they dreamed only. In the public health field, as well, we must learn that there is no single remedy. No one plan will apply everywhere, and in no single method does success lie. Careful study of each locality and its needs and the devising of educational methods which will be effective under actual rather than ideal conditions should be one of the most important duties of each health organization.

THE DEFERVESCENCE IN TYPHUS FEVER

Several subscribers have questioned a statement in a recent editorial on typhus[1] in which the statement was made that the fever terminates by lysis in a great proportion of cases, "contrary to the general belief." McCrae[2] says: "Toward the latter part of the second week, if the patient recovers, the fever disappears. Despite the usual description of the termination being by crisis, if the records are carefully examined it will be seen that in the majority the termination is by lysis and occupies about two days." On the other hand, such authorities as Osler, Strümpell, Dieulafoy and Doty believe that the termination of the disease occurs by a crisis on the twelfth or fourteenth day; that at this period, the temperature falls in from twelve to forty-eight hours, generally the latter time, down to the normal level. The matter seems then to be one of definition. If we believe that the crisis is a sudden fall in the temperature occupying but a few hours, the defervescence in typhus fever cannot be said to be by this method. If, on the other hand, we believe that a crisis manifests itself by a defervescence occurring at a distinct period in the disease, even though the time required be several days, then typhus fever does fall by crisis.

1. Typhus in Serbia, editorial THE JOURNAL A. M. A., April 17, 1915, p. 1329.
2. McCrae: Modern Medicine, i, 927.

THE AMERICAN MEDICAL ASSOCIATION AT SAN FRANCISCO

This issue of THE JOURNAL contains the announcements of the San Francisco session — the description of the city, the programs of the scientific assemblies, an outline of the features of the scientific and commercial exhibits. Even those who do not plan to attend the session will find in these announcements much that is suggestive and interesting. Those who are hesitating will be convinced, we are sure, that the San Francisco meeting offers many features that are unique and attractive.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

DISTRICT OF COLUMBIA

Keen Honored Guest.—Dr. William W. Keen, Philadelphia, who has been delivering a series of lectures at the Army Medical School, was entertained at lunch at the Cosmos Club, April 27.

Journal Reappears.—*Hospital News*, a monthly journal devoted to medicine and surgery, has reappeared under the coeditorship of Drs. Wilfred M. Barton and Walter A. Wells. The journal was formerly edited by Dr. Philip Newton who resigned to go to Europe as a Red Cross surgeon.

College Recognized in Michigan.—An official communication from the Michigan State Board of Registration in Medicine indicates that the Howard University School of Medicine, Washington, should have been shown as recognized in that state in Table D, published on page 1412 of THE JOURNAL of April 24, 1915.

Medical Examiners Appointed.—Four vacancies on the Board of Medical Examiners of the District were filled April 16 by the commissioners, by the appointment of Drs. Edgar Snowden, Edgar P. Copeland, Edward H. Reede and Harry Hyland Kerr, succeeding Drs. James F. Mitchell, Daniel S. Lamb, Frank Leech and John B. Nichols, terms expired.——Dr. George C. Ober, a member of the Board of Medical Examiners since 1896, and president of the board since 1905, resigned April 28.——Dr. Roy D. Adams has been appointed a member of the board of medical examiners of the District, vice Dr. George C. Ober, resigned.——Dr. Edgar P. Copeland has been chosen president of the regular board of medical examiners, Dr. Gregg C. Birdsall of the homeopathic board.

Personal.—Dr. Henry L. E. Johnson has been appointed a member of the board of directors of the Columbia Hospital, succeeding Brig. Gen. Daniel C. Kingman, resigned.——Dr. Clapham P. King of the American Red Cross unit in Serbia has returned to America, arriving in New York, May 2. Dr. King and the eight nurses who accompanied him, had been ill with typhus fever——Dr. J. B. Gregg Custis and Benjamin F. Leighton have resigned as members of the Board of Medical Supervisors of the District.

ILLINOIS

Rush Alumni to Meet.—Members of the Rush Alumni Association residing in Springfield are making efforts to secure a large reunion of the association at the Illinois State Medical Meeting, to be held at Springfield next week. Dr. F. F. Fletcher, '02, is the local secretary.

Leprosy.—Dr. George A. Zeller of the State Board of Administration went to Highland Park, May 5, to take charge of Angelo Lunardi, who will be taken to one of the state institutions for isolation and treatment.——Anna Jacobs, 62 years of age, a patient at Cook County Hospital, has been found to be afflicted with anesthetic leprosy.

State Society Meeting.—The sixty-fifth annual meeting of the Illinois State Medical Society will be held in Springfield, May 18-20, under the presidency of Dr. Albert L. Brittin, Athens. The oration in medicine will be delivered by President E. J. James of the University of Illinois, and the oration in surgery by Dr. Willard Bartlett, St. Louis. Thus far nine alumni banquets are scheduled for May 18 and 19.

Communicable Diseases.—The Tyler School near Plainfield has been ordered closed on account of scarlet fever.——The Mansfield School, which has been closed for a week on account of an outbreak of scarlet fever, was reopened April 26.——During April there were reported in the city of Rock Island 154 cases of measles. During the month seventeen quarantines were removed, twenty-five houses fumigated and forty cases of contagious diseases inspected.

State Hospital Officials Hold Meeting.—The annual meeting and election of officers of the Illinois State Hospital Medical Association was held at the Watertown State Hospital, April 29 and 30. Dr. Charles F. Reed of the Peoria State Hospital was elected president; Dr. Charles B. Caldwell of the Lincoln State Colony, vice-president, and Dr. Ralph R. McCarthy, Chicago State Hospital, secretary. Elgin was selected as the place for the next meeting and the time was set for September.

Chicago

Personal.—Dr. and Mrs. Alexander C. Wiener have returned from a visit to Useppa Island, Fla.——Dr. Evarts A. Graham has been appointed surgeon in chief of the Park Hospital, Mason City, Iowa.

Ricketts Prize Awarded.—The Howard Taylor Ricketts prize for research in the departments of pathology and bacteriology and hygiene at the University of Chicago, which is awarded annually on May 3, the anniversary of the death of Dr. Ricketts from typhus fever acquired while investigating that disease in Mexico City, has this year been awarded to Miss Maud Slye for her work on "The Influence of Inheritance on Spontaneous Cancer Formation in Mice."

New Medico-Military Organization.—Field Hospital No. 2, Ill. N. G., was mustered into the state service at Chicago, May 10, by the surgeon-general of the state, Lieut.-Col. Jacob Frank. The new field hospital is under the command of Major Gustavus M. Blech, with Lieut. James J. McKinley as executive officer and has enlisted a personnel of 41. Pending the securing of new quarters the organization will be housed in the armory of Field Hospital No. 1, Bush Temple, Chicago Avenue and North Clark Street.

Medical Reserve Corps Meeting.—The annual meeting of the Medical Reserve Corps, U. S. A., Illinois Division, was held at the Hotel Sherman, May 7, the president, Lieut. William L. Baum, in the chair. About fifty officers were present and the guests of honor were Major Harry E. Wilkins, Q. M. C., U. S. Army, and Capt. Will L. Pyles, M. C., U. S. Army. The following officers were elected: president, Lieut. William H. Wilder; vice-president, Lieut. Daniel A. K. Steele; secretary-treasurer, Lieut. John A. Hornsby (reelected), and councilors, Lieuts. Gustav A. Futterer and James Burry. The chief discussion of the evening was on the camp of instruction for officers of the Medical Reserve Corps, to be held at Sparta, Wis., in July.

INDIANA

Hospital News.—The cornerstone of the new hospital to be erected by the King's Daughters at Madison, was laid, May 6.——Marion County on May 6 appropriated $12,000 to be used by the Board of County Commissioners to provide a proper building site and plans for the new tuberculosis hospital at Indianapolis for the construction of which $80,000 will be required.

Wayne County Wants Health Expert.—The Wayne County Medical Society, the officials of Fort Wayne and Richmond, the Charities Bureau, womans clubs and other organizations of Wayne County, have combined to endorse the suggestion made by Assistant Surgeon-General Leland E. Cofer, U. S. P. H. S., Washington, to secure the services of a trained expert for the betterment of health conditions in the community.

Farm for Feebleminded.—The Indiana State School for Feeble Minded, Fort Wayne, is filled to its capacity and has more than fifty on the waiting list who cannot be accommodated. Dr. George S. Bliss, Fort Wayne, the superintendent, recommends that the state purchase a new farm of one or two thousand acres, to be used in conjunction with the one at present in use. The new farm is needed especially for adult females.

Personal.—Dr. Thomas J. Beasley, Indianapolis, who was operated on recently for appendicitis, is making a satisfactory recovery.——Dr. Henry Jameson, Indianapolis, has been reelected president of the Indiana Park Board.——Dr. Harry C. Parker, Indianapolis, announces his intention of removing to Dubuque after taking a postgraduate course of study in the East.——Dr. James M. Dinnen, Fort Wayne, has been reappointed for the sixth time a member of the State Board of Medical Examination and Registration.

Communicable Diseases.—The epidemic of smallpox at Newcastle has induced the secretary of the State Board of Health, Dr. John N. Hurty, Indianapolis, to address an open letter to the people of that community in which he urges them to become vaccinated as the only means of preventing spread of the disease. He urges the city to provide vaccine and vaccinate free all persons not protected in this manner, and predicts "with certainty" that only those who have had the disease either in mild or severe form, or who have been properly vaccinated within the required period, will go free from the disease if at all exposed to the contagion.——A case of smallpox was discovered in the Clark County Jail, Jeffersonville, May 2. Ten other prisoners were vaccinated and are being held in quarantine.——The epidemic of smallpox in Alexandria has been checked, and the last of the quarantined families has been released.——An epidemic of mumps and measles prevails in Shelbyville.

MICHIGAN

Money Wanted for Tuberculosis.—Senator Murtha has introduced a bill in the upper house appropriating $100,000 for work against tuberculosis. The bill is the outgrowth of the resentment against previous health bills in the legislature.

Hospital News.—Battle Creek Sanitarium has opened a new surgical ward building at a cost of $90,000.——St. Francis' Hospital, Escanaba, was recently dedicated. The building is four stories in height, 160 by 55 feet and has 100 rooms.

Appropriation for Blind School.—The appropriation bill for the Michigan School for the Blind was passed by the house, April 14, without dissent. In addition to the appropriation for current expenses of $57,000, a special appropriation was allowed of $68,100, making a total of $125,100 for work for this year.

Dinner to Dr. Vaughan.—On April 19 the Detroit branch of the American Pharmaceutical Association held a union meeting with the Detroit Retail Druggists' Association and the Wayne County Medical Society at which Dr. Victor C. Vaughan, Ann Arbor, delivered an address on "The Poisonous Group in the Proteid Molecule." A dinner in honor of Dr. Vaughan preceded the meeting.

Personal.—Dr. Henry S. Bartholomew, Lansing, has been appointed a member of the State Board of Health.——Dr. John C. Brown, Battle Creek, has been appointed a member of the State Board of Pardons, vice Dr. Karl B. Brucker, Lansing, resigned.——Dr. Victor C. Vaughan, Ann Arbor, has been elected a member of the National Academy of Sciences.——Dr. William M. Carling, Battle Creek, who has been ill for several weeks, has recovered and resumed practice.——Dr. Bernhardt Jacob, Detroit, superintendent of the House of Correction, was operated on for carbuncle of the neck in Grace Hospital, April 19.——Dr. Collins H. Johnston, Grand Rapids, has been elected chief of the medical staff of the Blodgett Home for Children, Grand Rapids, succeeding Dr. Joseph B. Griswold, deceased.——Dr. A. Verne Wenger, Grand Rapids, has been appointed a member of the staff of the Blodgett Home, Grand Rapids, vice Dr. Thomas M. Koon, deceased.——Dr. Harry A. Haze, Lansing, has resigned from the medical corps of the state.——Dr. John H. Kellogg, Battle Creek, is taking a trip to the Pacific.——Dr. Reuben Peterson, Ann Arbor, has been appointed a member of the State Board of Registration for Nurses.——Dr. Isaiah Sicotte has

been elected president of the newly organized Advancement Association of Michigamme.

Talent for College Clinic.—At the annual clinical meeting of the Detroit College of Medicine and Surgery which begins May 26, in addition to clinics held by fifty men of Detroit, additional clinics are to be given by eminent physicians and scientists of other cities. May 26, Dr. William B. Coley, New York City, will hold a clinic in Harper Hospital on "Differential Diagnosis of Sarcoma of the Long Bones"; on May 27, Dr. Edward C. Rosenow, Chicago, will speak on "Streptococcus Viridans" in St. Mary's Hospital; on May 28, Dr. Asa B. Davis, New York City, will hold an obstetrical clinic in Harper Hospital; on May 29, Dr. Arthur R. Elliott, Chicago, will hold a clinic on "Diseases of the Heart," and Dr. Samuel W. Kelley, Cleveland, a clinic on "The Cleft Palate and Hare Lip" in St. Mary's Hospital; on May 31, Dr. Charles Ogilvy, New York City, will speak on "Static Deformities with Special Emphasis on Early Diagnosis"; on June 1, Dr. William H. Robey, Jr., Boston, will deliver an address in St. Mary's Hospital on "The Reserve Force of the Heart, Arrythmia and Significance of the Diastolic Murmur"; on June 2, Dr. Daniel N. Eisendrath, Chicago, will hold a clinic on "Diseases of the Kidney and Ureter" in Harper Hospital, and on June 3, the concluding day of the clinic, Dr. Florus F. Lawrence, Columbus, Ohio, will speak on "Abdominal Diagnosis."

MINNESOTA

Epidemic Disease.—An epidemic of measles is reported in St. Paul, where 165 cases were reported in April as compared with sixty-eight cases during March.——The State Board of Health has been asked to aid in fighting an epidemic of scarlet fever in Groton Township, Grant County.

Mayo Statue to be Unveiled.—On May 29 the Dr. William W. Mayo Memorial Statue will be unveiled at Mayo Park, Rochester. Hon. C. M. Start, St. Paul, and Bishop O'Gorman, Sioux Falls, S. Dak., both old-time friends of Dr. Mayo, will deliver addresses. Songs will be sung by children of the city schools and one of the children of Dr. Charles H. Mayo will unveil the statue.

Sanatorium News.—Senator F. A. Duxbury, Caledonia, chairman of the senate committee on civil administration, has reported the indefinite postponement of the bill to abolish the advisory commission of the Sanatorium for Consumptives and invest the State Board of Health with the duties of the commission.——Hartland County has decided against the proposition to build a four-county tuberculosis sanatorium.

Hospital Notes.—Work is to begin at once on the Indian Hospital in northeastern Minnesota, to be located on the government farm on the Fond du Lac reservation near Cloquet.——The commissioners of Kent County have advertised for bids on a site for a hospital.——Steps are being taken by the commissioners of Koochiching County toward the erection of a hospital at the poor farm.——Work on the new Physicians' and Surgeons' Hospital at Thief River Falls will start immediately.——A benefit reception and ball was given in Lake City, April 20, for the benefit of the local hospital.——Dr. Giles R. Pease and Thomas E. Flinn, Redwood Falls, have awarded a contract for the erection of a new hospital in that place.——It has been decided to organize a stock company with a capital stock of $10,000 to secure the erection of a hospital for Spring Grove to accommodate ten patients.——An eight-room addition to the Northwestern Hospital, Princeton, is under construction.

Personal.—Dr. Louis S. B. Robinson, St. Paul, has taken a leave of absence for a year to do special work in tuberculosis and will fill the position of assistant superintendent at the Minnesota State Sanatorium for Consumptives in Cass County.——Dr. Charles Lyman Greene, St. Paul, resigned from the State Board of Health, April 29.——Dr. Arthur B. Ancker, St. Paul, has succeeded to the presidency of the American Hospital Association on account of the death of Dr. William O. Mann, Boston.——Dr. Charles W. More, Eveleth, has been reappointed a member of the State Board of Health.——Dr. Edward W. Fahey, Duluth, has succeeded Dr. Henry E. Webster, Duluth, as director of public health of Duluth.——Dr. James F. Hammond, St. Paul, has started for Montreal to enter the English Army Medical Service. ——Dr. John J. Donovan, Litchfield, who was operated on in Minneapolis, recently, has returned and resumed practice. ——Dr. Christian Johnson, Willmar, who has been seriously ill for two weeks, is reported to be convalescent.——Dr. James McAuliffe, deputy coroner of St. Louis County, Duluth, has been seriously ill with ptomaine poisoning.

MISSOURI

Southwestern Physicians Meet.—The spring meeting of the Southwestern Missouri Medical Society was held in Springfield, April 29 and 30, and the following officers were elected: president, Dr. Joseph W. Love, Springfield; vice-presidents, Drs. Murray C. Stone, Springfield, and James H. Elliott, Westplains; secretary, Dr. Herbert S. Hill, Springfield; assistant secretary, Dr. Edwin F. James, Springfield, and treasurer, Dr. Lee Cox, Springfield.

Personal.—Dr. George C. Mosher, Kansas City, who has been seriously ill, is convalescent and expects to resume practice about June 1.——Dr. Floyd A. Martin of the University of Missouri School of Medicine, Columbia, has resigned, to take effect at the end of the college year.——Dr. Bondurant Hughes, superintendent of the Missouri State Sanatorium for Incipient Tuberculosis, Mt. Vernon, has resigned and Dr. Carlos C. English, Mt. Vernon, has been placed in temporary charge of the institution.

St. Louis

Personal.—Dr. Henry Lloyd, assistant diagnostician to the board of health and formerly deputy coroner, was knocked down and severely injured by an automobile, April 23.——Dr. Allen W. Freeman, epidemiologist, U. S. P. H. S., has arrived in St. Louis to establish a bureau of rural sanitation.

Tribute to Dr. Lutz.—A bronze relief tablet 10 by 12 inches, of Dr. Frank J. Lutz, librarian of the St. Louis Medical Library, has been made at the orders of the St. Louis Medical Society as a tribute of the work Dr. Lutz has done and is doing for the library. The tablet bears the following inscription "Frank J. Lutz, whose integrity, foresight and devotion as librarian, made the St. Louis Medical Library. Erected by members of the St. Louis Medical Library."

Dedication of the New Washington University Medical School.—On April 29 and 30, the new buildings of the Washington University Medical School were dedicated with imposing ceremonies. On the first morning exercises were held in the assembly hall of the school at which the keys were formally presented to the acting chancellor of the university by the architect. The visiting delegates, thirty-eight in number, representing colleges, universities, medical schools, medical societies and the Medical Corps of the United States Army, were then presented to the chancellor and president of the corporation, after which Dean Eugene L. Opie of the medical school outlined the early history and reorganization of the school and the ideals which it represents. Dr. William H. Welch then spoke on "The Development of Clinical Teaching in American Medical Education." After luncheon addresses were made on the lawn of the medical school by President Lowell of Harvard, and by President Vincent of the University of Minnesota. After the addresses the guests were entertained at a garden party and in the evening a banquet was held at the St. Louis College, presided over by Mr. Robert S. Brookings, president of the Washington University Corporation, at which responses to toasts were made by President Hill of the University of Missouri, Ex-Governor David R. Francis of Missouri, Dr. Abraham Jacobi, New York City, and Dr. William H. Howell, Baltimore. The second day, April 30, was designated as alumni day and in the morning addresses were made by Dr. William T. Porter, on behalf of the alumni of St. Louis Medical College, and by Dr. Robert J. Terry, on behalf of the alumni of Missouri Medical College. These two institutions were united in 1899 to form the Washington University Medical School. Dr. Fred T. Murphy then spoke to the alumni on behalf of the faculty of the medical school. In the afternoon addresses were delivered by Dr. George Dock and Major-General William C. Gorgas, Surgeon-General, U. S. Army. In the evening academic exercises were held in the University chapel, followed by a reception in the building of the School of Fine Arts. At the exercises, the honorary degree of doctor of science was conferred on Drs. William T. Porter, O. E. Folin and Theodore Janeway, Baltimore. The degree of doctor of laws was conferred on Surgeon-General William C. Gorgas, presidents H. R. Hill of the University of Missouri, A. L. Lowell of Harvard University and George E. Vincent of the University of Minnesota, Prof. H. H. Chittenden and Drs. Franklin P. Mall, Baltimore; Abraham Jacobi, New York City; Simon Flexner, New York City; William H. Welch, Baltimore; Samuel J. Meltzer, New York City; William H. Howell, Baltimore, and Rudolph Matas, New Orleans; and the degree of doctor of laws *in absentia* was conferred on Prof. Nathaniel Wille of the University of Christiania, Norway. Opportunity was afforded for the inspection of the

laboratories of the medical school and the affiliated Barnes and St. Louis Children's hospitals. The laboratories were opened in September last and consist of two four-story and basement buildings, 209 by 56 feet. In the north building are located the administration offices, library, assembly hall, laboratories of preventive medicine and surgery and the department of anatomy. The south building is occupied by the departments of biologic chemistry, physiology and pharmacology. The group is completed by a third building, five stories in height and 232 by 60 feet and which is located directly across the street on the hospital lot. On the basement and first floor of this building the outpatient dispensaries of the hospital are housed; on the second floor the clinical laboratory of the department of medicine is located and the department of pathology occupies the third and fourth floors while animal quarters and runways are provided on the roofs of all three buildings. These buildings erected at a cost of $1,200,000 bring the outlay for new buildings for the medical school to a total of more than $3,000,000. During dedication week a number of manuscripts and papers of William Beaumont were presented to the Washington University Medical School by his grandaughter, Miss Irwin. Among these were the original manuscripts and notes of Dr. Beaumont's experiments on Alexis St. Martin and an agreement entered into by St. Martin to accompany Beaumont for a period of two years for the purpose of experimentation. A room known as the Beaumont Room has been set aside in the library of the medical school, for the care of these manuscripts and notes. Dr. Frank J. Lutz on the same occasion, spoke of "Beaumont as a Practitioner" and Dr. Joseph Erlanger on "Beaumont as an Investigator." On April 28, Dr. Simon Flexner, New York City, delivered a popular lecture before the Washington University Association on "The Control of Infective Diseases." In connection with the exercises of dedication week, a series of four lectures was delivered by Dr. Otto K. Folin.

NEW YORK

New Health Publication.—A new monthly magazine will be issued this month by the Rochester Public Health Association and the Children's Hospital of Rochester. It will be known as the "Health Survey" and will begin with a paid circulation of 3,000.

Physicians to be Paid for Birth and Death Certificates.—The governor has signed the Seely bill, providing that municipalities shall pay physicians 25 cents for each birth and each death certificate properly made out and filed. It is estimated that this law will cost New York City about $50,000 a year.

Personal.—Dr. Otto von Huffman has resigned as secretary of the State Board of Medical Examiners to become secretary of the faculty and executive officer of Long Island College Hospital, Brooklyn, succeeding Dr. Joseph H. Raymond, deceased. The resignation was accepted by the State Board of Regents, to take effect September 1.

Alumni Reunion.—The fortieth annual reunion of the Alumni Association of the Medical Department of the University of Buffalo will be held June 1 to 4. Scientific sessions will be held on the first two days and the annual business meeting on June 3. On the evening of June 2, quinquennial class reunions will be held and the alumni banquet on June 3. The graduating exercises occur on the morning of June 4.

Societies Protest Antivaccination Bill.—Kings County Medical Society and the New York Medical Society are making efforts to induce Governor Whitman to veto the Tallet-Jones antivaccination bill which has passed both branches of the state legislature and which proposes to abolish vaccination in cities of less than 50,000 population. It is feared the passage of the bill will be followed by smallpox epidemics causing a loss of lives at present safeguarded.

Lunacy Bill Vetoed.—Governor Whitman has vetoed the Knight bill which aimed to do away with examinations of the insane convicts in penal institutions under control of the commissioner of correction in New York City by two examiners in lunacy, pending their removal to Matteawan, and substituting committal to the psychopathic ward at Bellevue for observation. The reasons for this veto were that such a bill would overcrowd Bellevue and react unfavorably on curable cases awaiting commitment to state hospitals.

Iola Sanatorium Opened.—The cornerstone of the Iola Tuberculosis Sanatorium, Rochester, was formally laid, May 1. The buildings are to be erected at a cost of $150,000 and consist of a three-story and basement infirmary building with wards for patients, amusement rooms and an apartment for the resident physician, a two-story service wing containing kitchen and dining room and a surgical wing. Dr. John F. W. Whitbeck, president of the board of managers, presided and addresses were made by Rev. Clarence H. Barbour, Bishop Hickey and others, all paying tribute to the work of Dr. Montgomery E. Leary as superintendent, who as one speaker said, was giving his life to the fulfilment of a dream of a tuberculosis sanatorium that is to be second to none in the United States.

New York City

Birthday Dinner to Dr. Jacobi.—On May 6 the eighty-fifth anniversary of his birth, Dr. Abraham Jacobi was entertained as the guest of honor at the Hotel Astor at a dinner given by the physicians and officers of the Bronx Hospital.

New Health Periodicals.—Under the direction of Dr. Charles F. Bolduan, director of the Bureau of Public Health Education, the department of health has issued the Columbus Hill *Chronicle*, the Chelsea *Chronicle* and *Everybody's Chronicle*, four-page monthly magazines each of which contains, in addition to life-saving suggestions, a column of local neighborhood news.

Two Typhus Cases thus Far.—Dr. Joseph H. O'Connell has denied the report that twenty cases of typhus fever have been brought to Swinburne Island this year. Only two cases have arrived since Jan. 1, 1915. The first was the third engineer of the Greek steampship *Christiphoros* which arrived May 1 and the second arrived on the *Carpathia* on May 5. The latter is the first case to arrive direct from the war zone.

Hospital for Drug Victims.—A group of public-spirited women have subscribed $6,000 which has been turned over to Dr. Katherine B. Davis, commissioner of the department of correction, for the purpose of building a hospital for the care and treatment of sufferers from the drug habit. The hospital is to be built on Riker's Island where a farm has been laid out for work-house prisoners. The work of erecting the building will be begun at once.

Hygiene Station for "Graduate Babies."—"Graduate Babies" is a term that has been applied to children between the ages of 2 and 6 years and for whom special attention is to be provided by three of the stations of the New York Diet Kitchen Association. Conferences similar to those that are held for younger children will be given for the older ones. The mothers will be given the opportunity to consult with nurses and doctors concerning diet and home conditions for older children and when necessary hospital and dispensary treatment can be administered.

Columbia to Build Medical School.—Announcement was made May 3, that Columbia University is to build one of the largest medical teaching institutions in the world on a part of the site recently purchased by the Presbyterian Hospital which included the old American League Baseball grounds. The Columbia share in the project will be about $7,500,000. The project includes a new medical school to replace the present College of Physicians and Surgeons, the removal of the Presbyterian Hospital from the east side to a new site and the establishment of an institution for research, all of which will be accomplished within five years.

Special Training for Tuberculosis Work.—Since the work in the tuberculosis clinics of the department of health differs considerably from that of general medical clinics, requiring not only efficiency in medical diagnosis, but also an intimate acquaintance with tuberculosis hospitals and sanatoria, social service and knowledge of departmental branch office work, a special clinic of instruction has been established in which all applicants for the volunteer service will be assigned for courses in physical diagnosis and for a careful study of branch-office and clinic routine. Special emphasis will be laid on the importance of thorough and efficient work and of the proper treatment or disposition of those patients considered to be tuberculous. This clinic will be under the direction of Dr. D. Clifford Martin. Later a similar clinic will be held in the Borough of Brooklyn. It is hoped that these courses may be so extended as to include the entire present volunteer service and in that way the physicians showing the greatest interest and efficiency may be selected for the permanent salaried positions.

Personal.—Dr. Louis M. Dusseldorf of Brooklyn was severely injured in an automobile accident, May 3, his arm being so badly crushed that amputation of the arm was necessary.——Dr. Otto Schobl, formerly of the Pathological Institute of Prague, and for the past five years in the Bureau of Science in Manila, arrived in this city on May 1, and has

been added to the bacteriologic staff of the health officer of the port. His appointment was made as an additional precaution against the possible visitation of cholera and typhus fever.——Dr. Alfred Hess has been appointed clinical professor of pediatrics in the University and Bellevue Hospital Medical College.——Prof. C. E. A. Winslow has been appointed to the Anna M. Lauder professorship of public health in the medical department of Yale University.——Dr. John C. Anderson is reported to be in a serious condition from an accidental gunshot wound.——Dr. Otto H. Schultze has been appointed medical assistant to the district attorney, a position created by the last state legislature. Dr. Schultze has been for many years a coroner's physician in New York County.

PENNSYLVANIA

Optometry Bill Vetoed.—The optometry bill in Pennsylvania passed both the house and senate, but was defeated by the governor's veto.

Diphtheria Again Closes School.—The prevalence of diphtheria in Spring City has necessitated the closing of the Franklin Street School building for the second time within two weeks.

Quarantine Lifted.—The latest quarantine order of the State Live Stock Board announces that parts of only ten counties are continued in the quarantine for foot and mouth disease. These include small portions of Allegheny, Butler, Chester, Erie, Jefferson, Lebanon, Philadelphia, Schuykill, Warren and Westmoreland counties.

Entrance Requirements to Jefferson.—An authentic report has been received from the Jefferson Medical College stating that after Jan. 1, 1916, excepting for those students who take the premedical year in that college, two years of collegiate work, including courses in physics, chemistry, biology and French or German, will be required for admission.

Medical Missionary Meeting.—At the twenty-fifth annual meeting of the Pennsylvania Medical Missionary Society held in Overbrook, April 29, an address was made by Dr. W. F. Jeffries of St. John's College, Shanghai, China, and the secretary reported that the society had spent $26,000 in educating medical missionaries and $2,000 for other philanthropic purposes.

Personal.—Dr. D. E. Sable has been appointed chief police and fire surgeon of Pittsburgh.——Dr. James A. Singer, East Stroudsburg, has been elected chief of staff of the Stroudsburg Hospital.——Dr. Jacob G. Zern, Lehighton, who has been ill with rheumatism for several months, is reported to be convalescent.——Dr. Edgar W. Palmer, Greencastle, is convalescent after a serious attack of pneumonia.——Dr. Thomas C. Detwiler, Lancaster, was seriously injured by the overturning of his motor car near Stroudsburg, April 29.

Nearly a Century of Laidleys in Carmichaels.—The record of the Laidley family of physicians in Carmichaels is unique. It began with Dr. Thomas H. Laidley who started practice in Carmichaels in 1826; in 1856 his son, Dr. John B. Laidley, became associated with his father in practice and this arrangement was maintained to 1875. The son then continued practice alone until 1892 when he was joined by his son, Dr. Edmund W. Laidley, and in 1895 another son, Dr. John C. Laidley, became associated with him in practice. These three physicians are still practicing. The family record has thus been kept intact for eighty-nine years and it seems probable that more than 100 years of continual practice for the three generations, will be the record of this family.

Philadelphia

Honor to German Dentist.—Prof. Dr. Wilhelm Dieck, chief of the clinic of dentistry of the University of Berlin, has been given the honorary degree of Doctor of Science by the University of Pennsylvania.

Addition to Onocologic Hospital.—The first of a series of additions to the American Oncologic Hospital, erected at a cost of $21,000, has just been opened. It is a two-story, fireproof structure to the east of the main building, and will have another story added later.

President to be Entertained.—The President-Elect of the American Medical Association, Dr. William L. Rodman, is to be the guest of honor, May 18, of the West Branch of the Philadelphia County Medical Society, at the Marlyn, Walnut and Fortieth streets. The reception will be followed by refreshments and an informal dance.

Civil Service Appointment.—The Civil Service Commission of the city of Philadelphia has the following medical position on its present schedule; resident physician, the examination for which will held on June 2 in the City Hall, Philadelphia. Applications must be executed and sent to the commission on the third day prior to the day of the examination. The examination is open only to citizens of the United States.

Rules for Conduct of Homes for Children.—The members of the Board of Health have drawn up twenty-two rules for conducting homes for children providing for the present care of the children as well as for their physical surroundings. The head of every licensed boarding house for infants must keep a record of each of the children admitted, the names of parents, etc., and the homes must be inspected every two weeks.

Clean-Up Week.—Last week was devoted to a general house cleaning of the city, and the records show that the "job" was more thoroughly performed this year than ever before, and the clean-up is greatly in excess of the celebrated house cleaning of 1914. The final report at the end of Thursday showed that 4,500 extra team loads of rubbish had been carried away, as compared with 3,600 extra team loads for the first three days of clean-up week in 1914.

GENERAL

Foot and Mouth Disease.—Figures compiled by the United States Department of Agriculture shows that 124,141 animals were slaughtered because of foot and mouth infection between October, 1914, and March 25, 1915.

Epidemic Diseases in Mexico.—A report has been made to the state department that there have been violent outbreaks of smallpox and typhoid fever in the City of Mexico. Supplies of vaccine virus have been hurried to the city.

Eye, Ear and Throat Specialists to Meet in Chicago.—The twentieth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology will be held in Chicago, October 5 to 7, under the presidency of Dr. Joseph C. Beck, Chicago.

Proctologic Meeting.—The seventeenth annual meeting of the American Proctologic Society will be held in San Francisco, June 21 and 22, under the presidency of Dr. Louis J. Krouse, Cincinnati. The subject of the presidential address will be "Retrospect and Prospect."

Railway Surgeons Elect Officers.—At the annual meeting of the Association of Railway Chief Surgeons held in Chicago, May 3, the following officers were elected: president, Dr. Jonh P. Kaster, Topeka, Kan.; vice-president, Dr. Joseph M. Burke, Petersburg, Va.; secretary-treasurer, Dr. Louis J. Mitchell, Chicago (reelected).

Personal.—Dr. Harry T. Summersgill, superintendent of the University of California Hospital, has succeeded the late Dr. W. O. Mann, Boston, as president of the American Hospital Association.——John Gabert Bowman, A.B., LL.D., has been appointed a director of the American College of Surgeons.——The passenger list of the *Lusitania* contains the names of the following physicians who are believed to have been rescued: Drs. Howard Fisher, Washington, D. C.; James T. Houghton, Saratoga Springs, N. Y.; Daniel V. Moore, Yankton, S. Dak., and F. Warren Pearl, New York City.

Gynecologists to Meet.—The fortieth annual meeting of the American Gynecological Society will be held at the Greenbrier Sulphur Springs, W. Va., May 18 to 20, under the presidency of Dr. Thomas J. Watkins, Chicago. The president's address is to be given on the morning of the second day and on the second evening, Dr. Walter P. Manton, Detroit, will give a lecture with lantern demonstration on "Marriage Rites and Obstetrical Practices of the Ancient Romans," and on the third day the society will meet in joint session with the American Association of Genitourinary Surgeons.

Beriberi Facts.—Many cases of beriberi were reported on the German steamer *Kronprinz Wilhelm* which recently put in at an American port. An investigation still in progress by the U. S. Public Health Service has revealed the fact that in the dietary of the German seamen the bases of lime were distinctly absent, fresh meat, white flour bread and crackers, boiled potatoes, butter, lard and sugar having been the chief articles of diet. On the 255 days which make up the cruise of this war vessel, the men subsisted on food containing an excess of acid-forming elements and a deficiency of alkaline ash. The fact is also significant that forty-seven of the sailors suffering from beriberi were dismissed from the ship's hospital within eight days after a change to a diet rich in alkaline ash.

Bequests and Donations.—The following bequests and donations have recently been announced:

Home of the Merciful Saviour for Crippled Children, Philadelphia, $2,000, and Hahnemann Hospital a contingent bequest of $5,000 by the will of Charles R. Paul.

German Hospital, Philadelphia, and Hospital of the University of Pennsylvania, Philadelphia, each $5,000 for the establishment of free beds, by the will of Elizabeth L. Roberts.

Massachusetts Homeopathic Hospital, $200,000 for the erection of a building or for general uses; one-fourth of the residue of the estate after payment of bequests; dental department of the Harvard University, $10,000, and $20,000 for three perpetual beds to be added to the Collamore Ward, by the will of Mrs. Helen Collamore, Boston.

Hahnemann Hospital, Chicago, $150,000, a donation by Robert Allerton, Chicago; $100,000 for the building of a surgical ward of the new hospital, a donation by William Wrigley, Jr.

Presbyterian Hospital, Chicago, a donation of $110,000, by Mrs. A. A. Sprague to pay the debt on the Nurses' Home, which is to be known as the Sprague Home for Nurses as a joint memorial to A. A. Sprague and a brother, O. A. S. Sprague.

Medical Department of the University of Cincinnati, a donation of $1,000 for the running expenses, by Charles Boldt, Cincinnati, a commissioner of the institution.

Free Hospital for Consumptives of Philadelphia, Whitehaven, and St. Vincent's Home, each $2,000 by the will of Josephine Borey.

St. Joseph's Hospital, Philadelphia, $5,000; St. Vincent's Maternity Hospital, $1,000; and St. Mary's and St. Agnes' hospitals, each $500 by the will of William J. Power.

American Oncologic Society, Philadelphia, $5,000 by Ada R. Kimball.

Chestnut Hill Hospital, Philadelphia, $52,000; St. Christopher's Hospital for Children, Germantown Hospital, Philadelphia Polyclinic Hospital, College for Graduates in Medicine, Pennsylvania Hospital, Episcopal Hospital, Philadelphia, each $10,000, and Woman's Southern Hospital, Philadelphia, $12,000 and any residue that may remain from the estate by Chauncey H. Brush.

St. Vincent's Home, Philadelphia, $2,000, and St. Vincent's Maternity, $500 by the will of F. A. Doyle.

Hygiene and Sanitation at the Exposition.—At the Panama-Pacific International Exposition a considerable area in the Palace of Education and Social Economy is occupied by exhibits on these subjects. The superintendent of this department—Dr. Hurley, an officer in the Public Health Service—has described them in Public Health Report, May 7, 1915, p. 1377.

The American Social Hygiene Association has an exhibit illustrating its work in dealing with the social hygiene movement. The International Health Commission of the Rockefeller Foundation shows hookworm disease in all its aspects, their exhibit including large numbers of photographs and several wax models. The International Mouth Hygiene Association has established a model up-to-date infirmary, and displays a marvelous collection of skulls of all races, arranged with the idea of showing the effect on teeth of the various foods of primitive man as contrasted with modern diet. The Woman's Christian Temperance Union has an exhibit on the subject of alcohol and other habit-forming drugs, the New York State Hospital Commission, an exhibition of its work on mental hygiene, psychiatry, and the care and treatment of the insane. Feeble-mindedness is similarly handled by the Massachusetts State Lunacy Board. The state of Pennsylvania has a model exhibit on school hygiene, showing the numerous advances in open-air schools. The National Race Betterment Association shows by statutes, photographs, models, engravings, and charts, the causes and evidences of race deterioration, and the possibilities of improvement.

Infant hygiene is exhibited by the United States Children's Bureau. This exhibition is extraordinarily complete, displaying by every method available in such an exhibit, the care and nutrition of the child. A children's health conference is held daily in connection, a free medical examination is given to any child and advice is furnished to parents.

The tuberculosis problem is treated from many points of view. One exhibit is offered by the California Society for the Study and Prevention of Tuberculosis; another by the Arequipa Sanatorium of California, the latter displaying particularly the work treatment — making of pottery — conducted in this sanatorium. The city of Baltimore has an exhibit showing its recently installed city water supply and filtration system, and the city sewage disposal system.

The Government of Japan demonstrates military hygiene with life-like wax models of its soldiers and nurses and their work; in another portion of this exhibit are models of perfected city water supply systems in Japan.

Tropical diseases are illustrated by the Philippine bureau of health, which shows the methods used under the American regimen, and the Republic of Cuba has an exhibit showing the diseases peculiar to that country. This exhibition includes a rare collection of tropical mosquitoes.

In this building also is located the exhibit of the American Medical Association. (See pages 1703, 1716.) Hurley says:

"The American Medical Association participates with an enlightening exhibit, showing their general educational work in personal hygiene, with special reference to the harmful and fraudulent character of patent medicines now on the market. The amount of alcohol and other ingredients, medicinal and inert, in some of the popular patent medicines is here strikingly shown, with the actual materials, properly labeled, giving the market price for same, as contrasted with the price paid when purchased in the patent medicine."

Other exhibits on health and hygiene are to be found in the Palace of Liberal Arts, where the United States Public Health Service has a complete demonstration of the mode and spread of infectious diseases, and models of the various types of stations operated by this service—quarantine stations, marine hospitals, laboratories, sanatoriums, etc. In the Mines Building the Prudential Insurance Company has an exhibit occupying 4,500 square feet of space, demonstrating the relation of life insurance to the public welfare; and the Metropolitan Life Insurance Company demonstrates in a large area the various phases of its welfare work.

The aim of the exposition has been to keep these exhibits scientifically accurate, at the same time making them as graphic and interesting as possible, so as to be easily comprehended by the public. As medicine touches the originary activities of life at almost every point, there are innumerable exhibits besides those mentioned which are of particular interest to the physician.

FOREIGN

Physicians Needed for Mission Fields.—The American Board of Commissioners for Foreign Missions needs fifteen surgeons and physicians. Nine are wanted for China, four for Turkey, one for Africa and one at once for relief work in Serbia, with station at Monastir. For China, six men and three women are wanted to join hospitals already running which treat from 10,000 to 30,000 cases a year. The new men and women will be associated with surgeons in charge. In four hospitals in Turkey medical men are wanted in association with those already on the ground. In Durban, Natal Africa, a physician is urgently needed. The board lays down no sectarian test but does insist on earnest Christian consecration on the part of physicians whom it sends out. The candidates should be not over 35 years of age. In equipment the board requires a degree from a distinctly first-class institution and in addition an internship or its equivalent. Details as to service may be secured from Rev. C. H. Patton, 14 Beacon Street, Boston.

WAR NOTES

Donation to Red Cross.—An anonymous donation of $10,000 has been made for use by the American Red Cross on the field of action in European war wherever the society may find the need most urgent and without regard to the nationality of those whom it may benefit.

A Johns Hopkins Unit.—Through the central office of the American Red Cross, Washington, an urgent call has been sent to Johns Hopkins Hospital, Baltimore, for 150 physicians, sanitary inspectors and senior medical students to go immediately to Serbia to fight typhus fever which is raging in that country. The party will sail May 17.

More Supplies for Berlin.—A heavy shipment of medical and surgical supplies, including a large part of hospital garments assigned to the German headquarters in Berlin, were shipped by the American Red Cross, May 9, on the steamer *Strathblane*. The shipment consisted of 587 cases valued at $34,096. It is routed by Rotterdam, and will be forwarded from there through the American minister at The Hague.

Military Decorations.—Thousands of iron crosses have been awarded by the kaiser for special gallantry and devotion in the field, and other countries have been equally liberal. An unprecedentedly large proportion of them have been bestowed on members of the profession. The last *Wiener klinische Wochenschrift* lists for the week twenty-four physicians to whom the gold *Verdienst* cross had been awarded, in addition to a long list of other medical men receiving other decorations or special mention for gallantry in action.

Personal.—Major Ryerson, head of the Canadian Red Cross in the field, who had had one son killed in battle and a second dangerously wounded, now is suffering the loss of his wife and two daughters in the sinking of the *Lusitania*. ——Dr. William E. MacLachlan of the house staff of the Norwegian Hospital, New York City, has resigned to take service with the expeditionary force at Kingston.——Mrs. Mary Borden Turner, New York City, has been placed in charge of the Mobile Hospital unit, consisting of ten portable houses, five of which will have twenty beds each.

More Hospital Units for Europe.—A college unit of thirty physicians and surgeons of Philadelphia, with the necessary nurses sufficient to care for a hospital of 1,000 beds, has been offered by William Potter, president of Jefferson Medical College, for service in France or Belgium.——Under the charge of Dr. J. William White of the University of Pennsylvania, a corps of physicians and nurses will sail from New York early next month, where they will form a unit in the American Ambulance Hospital, Paris. Dr. James P. Hutchinson will be in charge of the operating department of the hospital.

Emergency Aid for French Physicians Refugees from the War Zone.—The physicians driven out from their homes in

northeastern France by the invading armies have most of them sought refuge in Paris. As a rule, they have lost their all and are in great distress. The government plans to come to their aid when the war is over, but in the meantime an association has been formed to give emergency aid to the extent of its powers. The name of the association is the Oeuvre parisienne de Secours immédiat et d'Assistance à la Famille médicale. The fund for immediate relief during the war is in charge of Dr. J. Bongrand, 6 rue Villaret-de Joyeuse, Paris, 17, who appeals for subscriptions to carry on the work, especially what he calls collective subscriptions, namely, small donations from members of a group.

Distinctions Between Medical and Line Officers.—It is evident from our German exchanges and our Berlin correspondent's writings, that the German army authorities are brushing away all distinctions between the medical and line officers. One after another the differences in insignia have been dropped, until now there is little to distinguish a medical from a line officer of the same rank. The trend in France seems to be just the other way; new distinctions are being imposed, as our Paris correspondent has reported with evident disapproval (The Journal, May 1, p. 1514). Dr. F. Helme, in the hope of influencing the authorities, has called attention in the *Presse Médicale* to the opposite course being taken in the German army, citing in full our Berlin correspondent's account (February 13, p. 614) of the iron crosses conferred on physicians for gallantry in action, with nothing to suggest that they should be classed apart as noncombatants.

Aid for Belgian Physicians.—The report of the treasurer of the committee of American physicians for the aid of the Belgian profession for the week ending May 8, 1915, lists the following contributions:

The Med. Soc. of St. Lawrence County, Gouverneur, N. Y.	$ 25.00
The Orange County Medical Association, Santa Ana, Cal.	25.00
Dr. Parke W. Hewins, Wellesley Hills, Mass.	25.00
Dr. Emma B. Culbertson, Boston, Mass.	25.00
Dr. L. L. McArthur, Chicago, Ill.	25.00
Dr. V. B. Jackson, Washington, D. C.	10.00
Receipts for the week ending May 8	$ 135.00
Previously reported receipts	6,585.50
Total receipts	$6,720.50
Previously reported disbursements:	
1,625 standard boxes of food at $2.20	$3,575.00
1,309 standard boxes of food at 2.30	3,010.70
Total disbursements	$6,585.70
Balance	$ 134.80

F. F. Simpson, M.D., Treasurer,
5 Jenkins Arcade Bldg., Pittsburgh, Pa.

Hospital for Service with England.—The Director General of the Medical Department of the British Army has sent a cablegram to Dr. John B. Murphy accepting an offer to provide a hospital for service in England or with the British army abroad. The cablegram was turned over by Dr. Murphy to Dr. James M. Neff who is now busily engaged in organizing the personnel for the staff of this hospital. The staff will consist of thirty-two medical men, including three operating surgeons, one consulting physician, a radiographer, a clinical pathologist, an ophthalmic surgeon and a specialist on diseases of the ear, nose and throat, and seventy-five fully trained nurses. The British government suggests that it provide a senior officer of the Royal Army Medical Corps as administrator and also two quartermasters. It will also provide the subordinate male staff and all equipment, surgical material, etc. Surgeons may provide their own instruments, or they will be provided by the government. The pay of the entire medical and nursing staff will be at British army rates. Two of the medical staffs will receive pay and allowances of lieutenant-colonels, six of them will rank as majors and twenty-four of junior rank, with salary of 24 shillings, or $6 a day. The nursing staff consists of one matron, twenty-six sisters and forty-eight staff nurses. The hospital will have accommodation for 1,040 patients. The medical and nursing staff will be given free transportation. It is suggested that the personnel be organized so that the staff may be ready to sail for England in time to arrive there about the middle of July. A number of applications have already been received by Dr. Neff and the work of enlisting the physicians and nurses is being carried on with enthusiasm. Dr. James M. Neff will be in command of the staff, Dr. Philip S. Chancellor will go as consulting physician and Drs. John Edward Kelley and John G. O'Malley have thus far been selected as members of the staff. Nurses or physicians who wish to participate in this work should apply to Dr. James M. Neff, 128 E. Thirty-Third Street, Chicago.

LONDON LETTER

London, April 23, 1915.

The War

THE WORK OF THE RED CROSS

The work of the Army Medical Service is ably supplemented by the British Red Cross, and the result is such that the British soldier knows that, should he fall, there is behind him the most perfectly organized medical service the world has ever seen. He will be taken with all possible speed and comfort to a perfectly equipped hospital at the base. There he will receive every care and all that medical skill can do, including attention by the ablest specialists of the day and use of the latest scientific appliances to relieve his suffering and heal his wounds. In the earlier part of the war the British Red Cross not only met the urgent demand for doctors, nurses and orderlies for both military and voluntary hospitals, but also rendered the army medical authorities other services, such as the supply of ambulance transport for the base and the issue of vast quantities of medical and other stores. When, as stated in a previous letter to The Journal, Boulogne became the great base for the wounded and was converted into what might be described as a hospital town, the Red Cross undertook the whole of the work of clearing the trains and conveying the wounded to the hospitals. During the great battle of Ypres, the hospital trains arrived by day and night bringing thousands of wounded. The rapidity with which the work was done is illustrated by the following figures: A train of 123 wounded was cleared in nineteen minutes, and one of 264 wounded in fifty-three minutes. The total number of Red Cross cars now working for the British army in France is 401. There are also seventy-eight touring cars, thirty-two motor lorries, twenty-one motorcycles, eight traveling kitchens and five traveling workshops—a total of 545 cars. The drivers number 560, of whom 430 are paid and 130 are voluntary. The military authorities now supply the Red Cross Ambulance Department with petrol and tires and provide for the billeting of the men. Ninety cars are always in instant readiness for service day or night. After the battle of Neuve Chapelle as many as 4,000 wounded were transferred in one day from the trenches to the hospitals. During March the total number of wounded moved from the trains to the hospitals, and from the hospitals to the ships, was 33,941. The greater number were moved by Red Cross cars, giving an average of 981 per day. At the front, the Red Cross works in convoys which consist of fifty ambulances, four touring cars, seven motorcycles, and three lorries, seventy-five drivers and fifty orderlies. A convoy is divided into three sections, each under a section leader. It is the duty of a convoy, or a section of it, to proceed to the various field hospitals in its district to which cases have been brought during the previous night, generally by horse ambulance, from the first-aid posts at the firing line. At the field hospitals, the ambulances are loaded up with stretcher cases and sitting cases for conveyance to the nearest clearing hospital, which is usually situated at the town used by the convoy as a base. Here the wounded are again treated, and as soon as possible are moved in the ambulances to the railhead and placed in trains for transport to the hospital base. Six hours, or at the most eight hours later, they reach the central station at Boulogne. Most of the trains now are splendidly equipped hospitals on wheels, with a complete medical and nursing staff. In this convoy work there is a considerable element of danger particularly when, as sometimes happens in great pressure, the ambulances are sent to collect the wounded at the first-aid posts. Yet it is the ambition of every man serving at the base to go out with a convoy. The convoy is often working along a road which is daily under fire, and the hospitals have frequently to be evacuated while the shells are falling perilously near. Ambulances have been struck by shell splinter or bullet; but happily so far there has been no casualty among the men. The sections have at times to work at night where no lights are allowed, and great care and skill are required to avoid serious accidents.

In addition to the ambulances working for the British army in France, the British Red Cross has placed 121 ambulances at the disposal of the French military authorities, subject only to the condition that they shall be available for the British army when required. Early in October the American Volunteer Motor Ambulance Corps, organized by Mr. Richard Norton, offered to send out a convoy to work under the British Red Cross. This most generous offer was gladly accepted, and the convoy was placed under the command of Colonel Barry, and is attached to a division of the

French army. The inspector-general of the French army has written a report expressing most cordial thanks for the great services rendered by this American contingent, which consists of Americans and is entirely self-supported as regards finance. On one occasion, it successfully withdrew 400 wounded from a town which was in imminent danger of falling into the hands of the enemy.

OPEN-AIR TREATMENT OF TYPHUS FEVER

The prevalence of typhus fever in Serbia, to which several of the British and American physicians and nurses who have gone to the assistance of that country have succumbed, gives the disease a special interest just now. In a letter to the *Times*, Sir Clifford Allbutt has suggested open-air treatment. In the sixties of last century he was in charge of a fever hospital at Leeds during an outbreak of typhus of which the mortality was very heavy. In consequence of a remark of the late Professor Rolleston of Oxford concerning the "Irish fever," that "not a few of the patients carried out into the hedge bottoms as moribund, nevertheless recovered," he was led to test open-air treatment as a principle of cure. He had the staff warmly clad and all the windows taken out or screwed firmly open. The mortality of all cases fell promptly from between 16 and 17 per cent. to 6 or 7 per cent., and the infective activity was much reduced. He therefore strongly urges that in Serbia every typhus fever patient should be carried out into the open air, in wet weather with a waterproof coverlid for sufficient protection, and that every attendant should wear glazed cotton overalls and protect the neck and hair in like manner.

PARIS LETTER

PARIS, April 22, 1915.

The War

MEDICO-SURGICAL STATISTICS OF THE WAR

The minister of war has decided to draw up for the present war medico-surgical statistics analogous to those which were drawn up for the Crimean and Italian wars. The material will be obtained from statistical bulletins, of which each one will represent a patient discharged from the hospital for any cause whatsoever (death, removal to another hospital or to a convalescent station, etc.). So far as the wounded are concerned, the data to be noted on the statistical bulletin will comprise the place and date of the wound, the interval in hours between the moment of the wound and the first medical dressing, the detailed diagnosis, the nature of the agent producing the wound (ball, shell, shrapnel, sidearm, etc.) the region wounded, the tissue injured, the infection which has followed (gaseous gangrene, tetanus, etc.) the complications (secondary hemorrhage, abscess, etc.) the surgical procedures, the anatomic and functional consequences and the termination.

THE REEDUCATION OF CRIPPLES

A Société de rééducation des blessés et mutilés de la guerre has just been formed at Pau and has founded an institute of mechanotherapy. The society has assumed the responsibility for the purchase of apparatus and the provision of porters for the work. The institute will be administered under military authority. The purpose of the society comprises the gratuitous provision of apparatus for alleviating the infirmities resulting from mutilations; the reeducation of cripples by theoretical instruction and by practical work so that they may be able to practice a livelihood in accordance with their aptitudes; search for appropriate employment. The society will receive and maintain at Pau wounded and crippled men who wish to learn a trade which is easily mastered; food and lodging as well as mechanotherapeutic care will be given free.

The establishment of a similar school for the professional reeducation of cripples at Bordeaux is under consideration.

EXAMINATION OF THE CONSCRIPTS OF 1917

The ministerial decree with regard to the formation of the 1917 class reminds the councils of revision and the physician experts that the examination of the young men of the 1917 class should be made with the greatest care because of the age of these conscripts, many of whom have not attained their full physical development. A severe selection, therefore, should be made, and the physicians should seek with especial care for all signs of insufficient functional vigor of the organism. They should be especially keen to discover symptoms of tuberculosis or of predisposition to that disease. They should always examine carefully the medical certificates presented by the men under examination.

CHARCOAL COTTON IN THE DRESSING OF WOUNDS

Recently, Professor Delorme, inspector-general of the military medical service, has recommended iodized charcoal as an application to a wound to insure disinfection and to dry up secretions. Dr. Maurice Champeaux has drawn attention in the *Journal des Praticiens* to the absorbent value of charcoal employed in another way. Why not increase the value of absorbent cotton by combining it with a substance having the same absorbent properties and possessing also a disinfectant and deodorizing property? Dr. Champeaux makes a dressing consisting of several layers of the absorbent cotton, alternating them with layers of powdered vegetable charcoal sprinkled on with an insufflator. This increases the absorbent properties of the dressing and tends to prevent soiling of the surface by the secretions issuing from the wounds.

Statistics of Population in 1914

The government has just published statistics, covering the first half of the year 1914, with regard to the population of France except the five departments invaded by the enemy, data on which are not available. These statistics indicate a deplorable state of affairs. The number of births has diminished during this period by 3,971. In 1914 there were 331,398 births in place of 335,369 in 1913. As the deaths increased by 20,845, it appears that the population of France during the first half of the past year—that is to say in time of peace—diminished by 24,816.

Cheap Dwellings in 1914

The activity of the Oeuvres de construction d'habitations à bon marché produced extremely interesting results in the department of the Seine before the declaration of war. During the first eight months of 1914, separate dwellings and apartment houses were constructed to a number almost equal to the total in 1913. A point which ought to be mentioned particularly is with regard to the "certificates of salubrity." Out of a hundred individual dwelling houses, about eighty obtained this certificate, while of a hundred apartment houses only half obtained it. Undoubtedly, it is much easier to insure hygienic conditions in a small house than in a barrack. Moreover, figures prove that the modest constructor (workman or employee) of the little individual house takes more care than the rich man to build his house healthfully and in conformity with the hygienic regulations of the committee of patronage of the Oeuvres de construction d'habitations à bon marché. These figures show also that the builder of apartment houses seeks too often to economize space at the expense of sanitation. Of course, the increase in the price of land, material and labor renders it more difficult to comply with the intent of the law. While recognizing the difficulty, the committee of patronage believes that it is always and everywhere possible to comply with the rules of hygiene and that the committee should therefore maintain its standards in the interests of the laboring population and the large families which are to be especially protected.

Marriages

EDWARD MILO VICTORINE, M.D., Cedar Rapids, Iowa, to Miss Fern R. Smith of Marble Rock, Iowa, at Iowa City, Iowa, April 15.

EARLE MONTGOMERY YOUNG, M.D., Plankinton, S. D., to Miss Laura Culbert of Sioux Rapids, S. D., April 14.

WILLIAM J. GILBERT, M.D., to Mrs. Rosa Wilken, both of New Orleans, at Gulfport, Miss., April 22.

RICHARD CLARENCE BEEBE, M.D., Lewes, Del., to Miss Edna Thompson of Paulsboro, N. J., April 28.

ARTHUR A. HUSSER, M.D., Hingham, Mont., to Mrs. Bertha M. McCrary of Havre, Mont., April 20.

JAMES SAMUEL SHAFFER, M.D., to Miss Mignon Warrick, both of Terre Haute, Ind., April 10.

CLAIR R. CANNON, M.D., Ellsworth, Wis., to Miss Annabel M. Barnett of St. Paul, April 19.

JOSEPH FRANCIS GEISINGER, M.D., to Miss Caroline Bragg, both of Richmond, Va., April 27.

Deaths

Gardner Caleb Hill, M.D. Castleton (Vt.) Medical College, 1856; a Fellow of the American Medical Association; and for nearly half a century a practitioner of Keene, N. H.; a member of the common council for three years and president of that body for two years; a member of the board of education for thirty-four years; city physician of Keene for seven years and physician of Cheshire County for five years; since 1897 president of the Keene Savings Bank; for many years an instructor in and president of the staff of the Eliot City Hospital, Keene; died at his home recently, aged 86.

Sherman Voorhees, M.D. College of Physicians and Surgeons, Baltimore, 1893; formerly a Fellow of the American Medical Association and of the American Academy of Ophthalmology and Oto-Laryngology; and a specialist on diseases of the eye, ear, nose and throat; of Elmira, N. Y.; surgeon to the Arnot Ogden Hospital and local ophthalmologist for the Pennsylvania System; who was seriously injured in July, 1914, in an automobile accident; died from his injuries at the home of his sister in Brooklyn, May 1, aged 48.

Josiah E. Bauman, M.D. Bellevue Hospital Medical College, 1867; for more than forty years a practitioner of Telford, Pa.; local surgeon for the Philadelphia and Reading Railroad; a member of the board of censors of the Medico-Chirurgical College of Philadelphia; aged 69; died in St. Agnes' Hospital, Philadelphia, April 30, from injuries sustained a few hours before when he was struck by a train near the Souderton, Pa., station.

Jacob Waller Phillips, M.D. Western Pennsylvania Medical College, Pittsburgh, 1890; a Fellow of the American Medical Association; for several years a city physician of Pittsburgh and a member of the central board of education; suffered a fracture of the skull by the overturning of an automobile in which he was riding, April 29, and died while being taken to the West Penn Hospital, aged 55.

Charles Joseph Fagan, M.D. University of Dublin, Ireland, 1883; of Victoria, B. C.; secretary of the Provincial Board of Health and secretary-registrar of the Council of the College of Physicians and Surgeons of British Columbia; formerly medical superintendent of St. Mary's Hospital, New Westminster, B. C.; a pioneer in antituberculosis work; died at his home in Victoria, February 10, aged 57.

DeWitt Clinton Newman, M.D. Starling Medical College, Columbus, Ohio, 1882; Cooper Medical College, San Francisco, 1883; for twenty-five years a practitioner of Spokane, Wash.; formerly a member of the State Board of Health; coroner of Spokane County and a member of the Spokane Board of Health; died at his home in that city, April 30, from cerebral hemorrhage, aged 57.

Charles A. Walsh, M.D. Hahnemann Medical College, Chicago, 1882; a founder, formerly a member of the staff and trustee of Grace Hospital, Detroit; at one time a member of the common council of Bay City, Mich.; a veteran of the Civil War; died at his home in Bay City, April 22, aged 71.

Sanders L. Swygert, M.D. Jefferson Medical College, 1885; of Greenwood, S. C.; a member of the South Carolina Medical Association; while making an address before the House of Delegates of the Association, Greenwood, April 20, died suddenly from heart disease, aged 54.

Fred Milton Smith, M.D. Medical School of Maine, Brunswick, 1905; a member of the Maine Medical Association; was taken ill in a taxicab, April 24, while making a professional call and died soon after, at his home in Portland, Maine, aged 35.

Darius Hefling, M.D. Philadelphia University of Medicine and Surgery, 1860; Botanic Medical College, Memphis, Tenn., 1862; from 1898 to 1902 sheriff of Tuscarawas County, Ohio; died at his home in New Philadelphia, Ohio, April 24, aged 78.

Amos C. Davis, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1867; surgeon of Volunteers during the Civil War; for nearly twenty-five years a practitioner of Topeka, Kan.; died at the home of his son in that city, April 24, aged 79.

William Phillips, M.D. Eclectic Medical Institute, Cincinnati, 1877; formerly a member of the Ohio State Medical Association; a member of the city council of Jackson, Ohio; died at his home in Parkview Heights, Jackson, March 8, aged 67.

Edward P. Cooke, M.D. Medical College of Ohio, Cincinnati, 1878; assistant superintendent of the Athens (Ohio) State Hospital from 1878 to 1884 and from 1892 to 1897; died at his home in Barlow, Ohio, April 24, from arteriosclerosis, aged 58.

Franklin Chase Clark, M.D. College of Physicians and Surgeons in the City of New York, 1872; a practitioner of Providence, R. I., for more than forty years; died at his home in that city, April 26, from cerebral hemorrhage, aged 67.

William Fred Hutchinson, M.D. Indiana College of Medicine and Midwifery, Indianapolis, 1885; for several years a chemist in the service of the British and United States governments; died at his home in Minneapolis, April 24, aged 73.

Horatio Gilbert, M.D. Albany (N. Y.) Medical College, 1867; hospital steward of the One Hundred and Fifty-Seventh New York Volunteer Infantry during the Civil War; died in the Soldiers' Home Hospital, Bath, N. Y., April 25, aged 75.

John V. E. Winnie, M.D. Albany (N. Y.) Medical College, 1867; a member of the Medical Society of the State of New York and health officer of the village of Sidney, N. Y., for fifteen years; died at his home, April 26, aged 71.

Joseph William Osher, M.D. University and Bellevue Hospital Medical College, 1913; of Brooklyn; house physician at St. Catherine's Hospital, Brooklyn, N. Y.; died in that institution, April 23, from pneumonia, aged 24.

Thomas B. Drew, M.D. College of Physicians and Surgeons, Chicago, 1897; of Oswego, Ill.; a Fellow of the American Medical Association; died in Augustana Hospital, Chicago, April 28, from intestinal obstruction, aged 40.

Edward Lincoln Kerns, M.D. State University of Iowa, Iowa City, 1889; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; died at his home in Moline, Ill., May 1, aged 49.

Jacob W. Clark, M.D. University of Louisville, 1870; of Washington, Ind.; formerly a member of the Indiana State Medical Association; died at the home of his sister in Portland, Ore., April 24, from tuberculosis, aged 73.

George Jerrald Potts, M.D. Victoria College, Coburg, Ont., 1867; surgeon of volunteers during the Civil War; several years editor of the Toronto *Leader;* died at the home of his son in Clinton, Ont., April 22, aged 83.

Arthur Frederick Bissell, M.D. College of Physicians and Surgeons in the City of New York, 1847; for many years a practitioner of New York City; died at the home of his daughter in Baltimore, April 28, aged 88.

William W. McAfee, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1905; a druggist and practitioner of Atlanta, Ga.; died suddenly in that city, April 24, from cerebral hemorrhage, aged 49.

Henry B. Brusstar, M.D. Jefferson Medical College, 1873; quarantine officer of the port of Philadelphia during the administration of Governor Beaver; died at his home in Philadelphia, April 25, aged 64.

Frank Peck Satterlee, M.D. College of Physicians and Surgeons, San Francisco, 1900; formerly of Hayward, Calif., but recently a resident of Shasta County; died in San Francisco, January 14, aged 55.

William John Sheehan, M.D. Albany (N. Y.) Medical College, 1897; of Port Chester, N. Y.; a member of the Medical Society of the State New York; died in New York City, January 14, aged 43.

William B. Rice, M.D. New York Homeopathic Medical College, New York City, 1863; for many years a practitioner of Niagara Falls, N. Y.; died at the home of his daughter in Buffalo, May 2, aged 88.

Emory Lincoln White, M.D. Harvard Medical School, 1872; a member of the board of health of Somerville, Mass.; died suddenly at his home in Somerville, April 29, from heart disease, aged 66.

Leslie Howard Evans, M.D. University of Vermont, Burlington, 1912; assistant physician to, and pathologist at, the Maine State Sanatorium, Hebron; died in Lewiston, Maine, January 17, aged 35.

Ethelbert H. Black, M.D. Curtis Physio-Medical Institute, Marion, Ind., 1883; formerly a member of the Ohio State Medical Association; died at his home in Rossburg, Ohio, February 9, aged 55.

Robert Henry Stetson, M.D. Bennett Medical College, Chicago, 1878; died suddenly at his home in Roswell, N. M., April 21, from heart disease, aged 72.

John B. Berry, M.D. Kentucky School of Medicine, Louisville, 1887; of Detroit, Texas; is said to have committed suicide in that city, March 10, while despondent on account of ill health, aged 50.

Ira R. Wetherill, M.D. College of Physicians and Surgeons, Baltimore, 1881; a practitioner of Bluffton, Ind., for twenty-five years; died in a sanatorium in Marion, Ind., April 21, aged 61.

Andrew H. Shaeffer, M.D. Starling Medical College, Columbus, Ohio, 1849; a practitioner of Circleville, Ohio, since 1870; died at his home in that place, April 21, from nephritis, aged 93.

Isaac Welsh Brown, M.D. University of Pennsylvania, Philadelphia, 1907; a member of the Medical Society of the State of Pennsylvania; died at his home in Philadelphia, April 29, aged 32.

Daniel N. Fisher, M.D. University of Arkansas, Little Rock, 1896; an honorary member of the Saline County (Ark.) Medical Society; died at his home in Benton, Ark., February 25, aged 69.

Byron D. Brown, M.D. Castleton (Vt.) Medical College; a practitioner of Coffeyville, Kan., for more than thirty years; died at his home in that city, March 14, from senile debility, aged 79.

Robert Hoffman, M.D. University of Wurzburg, Bavaria, 1884; a Fellow of the American Medical Association; died at his home in Baltimore, April 25, from heart disease aged 55.

Wellington Johnson, M.D. Bellevue Hospital Medical College, 1887; a Fellow of the American Medical Association; died at his home in Augusta, Maine, February 18, aged 59.

Alfred David, M.D. Queen's University, Kingston, Ont., 1873; for nineteen years a practitioner of Calumet, Mich.; died at his home in Prince Albert, Sask., February 11, aged 72.

Arthur Ernest Gale, M.D. University of Michigan, Ann Arbor, 1898; died at his home in Chestnut Hill, Brookline, Mass., April 27, following a nervous breakdown, aged 46.

William F. Smith, M.D. Eclectic Medical Institute, Cincinnati, 1886; of Vincennes, Ind.; died in the Southern Indiana State Hospital, Evansville, February 19, aged 61.

William A. Brock, M.D. Medical College of Ohio, Cincinnati, 1883; formerly of Lexington, Ky.; died at his home near Jacksonville, Ky., April 27, aged 78.

George Hoyle Sample, M.D. St. Louis College of Physicians and Surgeons, 1888; died at his home in Pocahontas, Mo., February 1, from nephritis, aged 64.

Abner Monroe Anderson, M.D. Barnes Medical College, St. Louis, 1900; of Throckmorton, Texas; died at his old home in Olney, Texas, April 27, aged 44.

John Littell Tarlton, M.D. Tulane University, New Orleans, 1908; of Grand Coteau, La.; died in New Orleans, March 18, from tuberculosis, aged 28.

William St. John Downey, M.D. Rush Medical College, 1894; of Salt Lake City; died suddenly, April 20, while making a professional call, aged 43.

Daniel Augustus Fuller, M.D. Long Island College Hospital, Brooklyn, 1886; a dentist and practitioner of Brooklyn; died at his home, May 2, aged 55.

Mason G. Elzey, M.D. Medical College of Virginia, Richmond, 1861; formerly of Cumberstone, Md.; died in Richmond, Va., March 18, aged 76.

John James Kingston, M.D. University of Victoria College, Coburg, Ont., 1869; died at his home in Aylmer West, Ontario, March 12, aged 69.

Harley A. Stroud, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1889; died at his home in Douglas, Mich., April 23, aged 66.

George Davidson Carl, M.D. Pennsylvania Medical College, Philadelphia, 1855; died at his home in Greencastle, Pa., March 5, aged 84.

Henry B. Miller, M.D. Jefferson Medical College, 1885; died at his home in West Lafayette, Ohio, April 21, from heart disease, aged 61.

George Williams, M.B., C.M., Queen's University, Kingston, Ont., 1913; of Toronto; died in the Toronto General Hospital, March 2, aged 26.

J. T. Kasey (license, Missouri) died at the home of his daughter in Albuquerque, N. Mex., March 11, from senile debility, aged 81.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

BURNHAM'S SOLUBLE IODINE

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report on Burnham's Soluble Iodine.

W. A. PUCKNER, Secretary.

Burnham's Soluble Iodine is offered to the medical profession by the Burnham Soluble Iodine Company, Auburndale, Mass., under the claim that by

> ". . . a new process hitherto unknown to chemistry, . . . Iodine is converted into a soluble article—soluble in water and soluble in gastric secretions and in the tissues."

Beyond this no statement as to the qualitative or quantitative chemical identity of Burnham's Soluble Iodine is furnished; this secrecy, of course, has given the preparation a certain mysterious prestige among unthinking physicians.

Burnham's Soluble Iodine was examined in the Chemical Laboratory of the American Medical Association some six years ago[1] and was found to be an alcoholic solution of free iodin (approximately 3 gm. per hundred c.c.) and combined iodin in the form of iodid (equivalent to about 2 gm. of potassium iodid per hundred c.c.). Thus the total iodin content was somewhat less than half of that of the official Tincture of Iodin (*Tr. Iodi.*), which contains 7 gm. of free iodin and 5 gm. of potassium iodid to each 100 c.c. The official tincture, diluted one-half, therefore, would be essentially equivalent to the Burnham preparation, both being miscible with water. The Burnham Soluble Iodine Company objected to the conclusions drawn from this analysis, but admitted the correctness of the analysis itself.

Any one who gathered his first knowledge of the subject from the Burnham advertising might readily infer that no soluble iodin had been known prior to Burnham's Soluble Iodine. This, of course, is not the case; the method of producing a solution of iodin by the use of an iodid has long been known.

The following statement is not only obviously untrue but also nonsensical:

> "In all the history of iodin medication, covering a period of laboratory research of many years duration, every effort to produce a free iodin, *prior* to the evolution of Burnham's Soluble Iodine, was attended by failure."

The company lays stress on the assumed superiority over the iodids of a preparation containing free iodin. This assumption is based on a fallacy. Those who regard free iodin as superior to combined iodin forget that free iodin taken by the mouth is converted in the intestines, by the action of the alkaline intestinal secretions, into an iodid with a small amount of iodate, while administered intravenously (a procedure that, while advocated by the Burnham concern, is therapeutically indefensible) it enters into combination with the alkaline salts and proteins of the blood. The free iodin in Burnham's Soluble Iodine must act in the system as an iodid, and the whole iodin content, to furnish a correct estimate of the value of the preparation, should be reckoned as an iodid.

Bearing this in mind, then, it is evident that the doses of Burnham's Soluble Iodine recommended by the manufacturers are extremely small. They range from 20 minims (equivalent to 1 grain of potassium iodid) to ½ minim (equivalent to 1/40 grain of potassium iodid). From 5 to 20 minims (equivalent to about ¼ to 1 grain of potassium iodid) is the dosage recommended for syphilis; from "1 to 3 minims [equivalent to from 1/20 to 3/20 grain of potassium iodid] three to six times daily" for typhoid and other intestinal diseases.

1. For report see THE JOURNAL, March 28, 1908, p. 1055.

No wonder the exploiters can say that this nostrum does not irritate the intestines, that it is "non-irritating to the weakest stomach" and that there is an "entire absence of toxic action from maximum doses"! Its alleged freedom from the irritating and untoward effects of ordinary iodids is due, not to any inherent superiority of the preparation, but to the insignificant amount of iodid present.

The preparation is advertised for use in an extremely wide range of diseases, in some of which iodid therapy is recognized as of value, while in others it is generally regarded as either worthless or harmful. Given orally or intravenously (the recklessness of the latter method should again be emphasized) Burnham's Soluble Iodine is claimed to be of:

". . . great utility as an internal antiseptic in tubercular affections . . ."

Since, as previously explained, free iodin, when introduced into the body, enters into chemical combination before it has a chance to permeate the tissues, and since the alkali iodids possess very slight (in fact, for this purpose, negligible) antiseptic powers, it is evident that this claim is unfounded. So, for the same reason, is the claim that "as an intestinal antiseptic," Burnham's Soluble Iodine is:

". . . efficient in Typhoid Fever, Enteritis and other intestinal diseases."

It is recommended in exophthalmic goiter, notwithstanding that this condition is generally recognized as contraindicating the administration of iodids, which excite the action of the thyroid gland, and which therefore must be used with great circumspection. An especially indefensible recommendation is that ½ minim of Burnham's Soluble Iodine (equivalent to 1/40 grain of potassium iodid) be administered every five minutes in "membranous croup"—diphtheria—until relief from dyspnea is obtained. But, of all the extravagant claims made for this preparation, perhaps the following is the most reprehensible:

"In the treatment of Phthisis, in its various forms, clinical evidence clearly indicates that the use of SOLUBLE IODINE affords the most potent method of treatment available. Dose—2 minims, increasing to 5 minims in four ounces water before meals."

Remove the mystery and tell physicians that a dose of 1/40 or ¼ of a grain of potassium iodid is "the most potent method of treatment available" in tuberculosis and the absurdity becomes self-evident. Nor is this the worst feature of the advice here offered. Iodin, by combining with the fatty acids of tuberculous tissues, promotes their autolysis and consequently their softening and breaking down. The products of this autolysis are carried by the lymphatics to healthy tissues and thus may spread the infection. Therefore the use of iodids in tuberculosis, even in small dosage, should not be undertaken lightly.

It is recommended that Burnham's Soluble Iodine, a semisecret preparation, exploited by means of extravagant and dangerous therapeutic claims, be held ineligible for admission to New and Nonofficial Remedies, and that this report be published.

Confide in a Woman

How Women Act While Consulting a Male Physician.

Mrs. Pinkham, in Lynn, Mass.

Lydia E. Pinkham died in 1883. For years after her death, the concern's advertisements gave the impression that she was still answering all letters written to her. Here is a typical advertisement of this sort; it appeared in 1903, twenty years after Lydia E. Pinkham's death.

BACKACHE A SYMPTOM

Of More Serious Illness Approaching. Mrs. Bender's Case.

Another Case.

If you have the slightest doubt that Lydia E. Pinkham's Vegetable Compound will help you, write to Lydia E. Pinkham Medicine Co. (confidential), Lynn, Mass., for advice. Your letter will be opened, read and answered by a woman, and held in strict confidence.

In this more recent advertisement, it will be seen that women are no longer told to write to "Mrs. Pinkham" but to the "Lydia E. Pinkham Medicine Co."

LYDIA PINKHAM'S VEGETABLE COMPOUND

In his Great American Fraud series, Mr. Samuel Hopkins Adams discussed the Lydia Pinkham concern in *Collier's*, Feb. 17, 1906, as follows:

"No little stress is laid on 'personal advice' by the patent-medicine companies. This may be, according to the statements of the firm, from their physician or from some special expert. As a matter of fact, it is almost invariably furnished by a $10-a-week typewriter, following out one of a number of 'form' letters prepared in bulk for the 'personal-inquiry' dupes. Such is the Lydia E. Pinkham method. The Pinkham Company writes me that it is entirely innocent of any intent to deceive people into believing that Lydia E. Pinkham is still alive, and that it has published in several cases statements regarding her demise. It is true that a number of years ago a newspaper forced the Pinkham concern into a defensive admission of Lydia E. Pinkham's death, but since then the main purpose of the Pinkham advertising has been to befool the feminine public into believing that their letters go to a woman—who died nearly twenty years ago of one of the diseases, it is said, which her remedy claims to cure.

"True, the newspaper appeal is always 'Write to Mrs. Pinkham,' and this is technically a saving clause, as there is a Mrs. Pinkham, widow of the son of Lydia E. Pinkham. What sense of shame she might be supposed to suffer in the perpetration of an obvious and public fraud is presumably salved by the large profits of the business. The great majority of the gulls who 'write to Mrs. Pinkham' suppose themselves to be addressing Lydia E. Pinkham, and their letters are not even answered by the present proprietor of the name, but by a corps of hurried clerks and typewriters."

Earlier in the series, Mr. Adams had said: "Lydia Pinkham's variety of drink depends for its popularity chiefly on its alcohol."

Before the Food and Drug Act Lydia Pinkham's Vegetable Compound was labeled "A Sure Cure for Falling of the Womb and all Female Weakness." After the passage of the act the "sure cure" claim was eliminated and the enlightening information appeared, "Contains 18 per cent. of alcohol."

A year or two ago the chemists of the British Medical Association analyzed this nostrum and reported:

"Analysis showed it to contain 19.3 per cent. by volume of alcohol, and only 0.6 per cent. of solid substances; the ash was 0.06 per cent., and consisted of the constituents usual in vegetable preparations; traces of tannin and ammonia were present, and a small quantity of reducing sugar; no alkaloid was present, and no evidence was obtained of any active principle except a trace of a bitter substance soluble in ether; the remainder (0.3 or 0.4 per cent.) was vegetable extractive, possessing no distinctive characters."

As, from this analysis, it appeared that Lydia Pinkham's Vegetable Compound might properly have come within the

list of those alcoholic medicinal preparations for the sale of which a special tax is required, the attention of the Internal Revenue Department was called to the fact. The Commissioner of Internal Revenue replied that the preparation would be analyzed in the Bureau's laboratory and the matter reported on. This was late in 1913. Nothing further was heard from the Commissioner of Internal Revenue and in June, 1914, the office of the Commissioner was again written to. In reply the Internal Revenue officials stated that it had had Lydia Pinkham's Vegetable Compound under consideration and "as such preparation is *now* [Italics ours.—ED.] compounded and placed on the market, it measures up to the standard adopted by this office. . . ." This letter was written June 9, 1914. Packages of Lydia Pinkham's Vegetable Compound purchased soon thereafter bore a special label on the bottle and the carton bore a small sticker with the words, "NEW FORM ADOPTED June 12, 1914." The special label on the bottle bore in part the following significant statements:

"It may be found that this medicine has *a different taste and appearance* from the Compound as formerly prepared. This is because it is now improved by *certain additions*.

"Understand that it contains precisely the same medicinal ingredients as formerly and in the same proportions, and consequently retains all its old virtues. The change made with the aid of forty years' experience is simply that *the medicine is stronger and contains some new herbs* possessing valuable medicinal properties. . . ." [Italics ours.—ED.]

As it is a most unusual thing for nostrum manufacturers to *admit* changes in their formula — unless there are very urgent reasons for doing so — the assumption is justified that a hint from the Internal Revenue Department caused the Pinkham concern to add more drugs to its alcoholic nostrum. The proprietor of a large pharmaceutical jobbing house in Chicago reports that since the formula has been changed a number of complaints have come in from retail druggists to the effect that the nostrum does not "keep" but is "blowing up" on their shelves.

Labels before and after the passage of the Food and Drugs Act. The "SURE CURE" disappears and the enlightening information "CONTAINS 18 PER CENT OF ALCOHOL," takes its place; "*All* Female Weaknesses" becomes "*other* Female Weaknesses"; the statement, "for all diseases of the KIDNEYS it is the *Greatest Remedy in the World*," also disappeared when falsifying on the label became risky.

Ten Commandments for Clean-Up Week.—Dr. Carol Aronovici, secretary of the Suburban Planning Association of Philadelphia has formulated ten commandments which relate particularly to the open lot as a problem of city cleanliness:

I. Love your neighbor's lot as you do your own; but be sure to love your own.

II. Don't plant tomato cans and rubbish on unused land; their fruits are withered civic pride.

III. Don't allow yourself or your city to create dumps. Waste can be made to pay for its own destruction at a profit.

IV. Don't allow tumbled-down buildings to stand on valuable land; they are financially wasteful, they create filth, invite vice and are a menace to life.

V. A fence that has ceased to be a fence and has become an offense should be repaired or destroyed.

VI. Unregulated advertising on unused land pays for the maintenance of a public nuisance.

VII. Two gardens may grow where one dump has bloomed before.

VIII. School gardens are valuable adjuncts to education and recreation. They can be cultivated on an open lot.

IX. Let the children play on the unused land, so they may become strong and keep out of the hands of the law.

X. Let not an inch of land be kept in idleness. It has a divine right to bear fruits and flowers, and ever serve the highest interests of man.

Correspondence

The Superstition of Flat Foot

To the Editor:—In his paper on this subject (THE JOURNAL, April 10, 1915, p. 1208), Dr. Lovett emphasizes the fact that the painful symptoms, in the majority of cases, are due to strain, primarily of the muscles, and have no relation whatever to the depth of the arch. In this we agree, or perhaps I might say, he agrees with me, since I called attention to it more than twenty-five years ago. I am rather surprised, therefore, that I am classed by him as one who uses "a metal brace to force the arch of the foot back into place." I note further that throughout his paper, stress is laid on the arch, to the practical exclusion of the mechanism of the foot, and to the effect of disordered function as a predisposing cause of disability or "strain" in the class of cases with which his paper is chiefly concerned, namely, "the flat foot which is not flat foot."

To illustrate: Under normal conditions, when in active use, the power represented by the calf muscle is in line with the fore-foot, or fulcrum. This, owing to the greater length of the first as compared to the fifth metatarsal bone, has a somewhat diagonal contour, so that when the limb is advanced in the line of progression, the weight is lifted over it, and is directed toward the outer, or strong side of the foot.

In the attitude of rest, or weight bearing, the arch sways inward, and as a consequence, the fulcrum is displaced outward in its relation to the power. This attitude, with the accompanying outward rotation of the limbs, is fairly characteristic of the walk of shoe-wearing people. The spring of muscular control, and the normal alternation of strain are replaced by an inelastic gait in which there is almost unrelieved strain on the inner, or weaker side of the foot.

All weak, painful and disabled feet of the type under consideration have this common characteristic—the habitual use of the passive attitude of abduction (pronation), in which the forefoot is turned away from the power, and in which the weight is directed toward the inner border of the foot, and in which the arch, although not primarily lowered as far as the imprint is concerned, bulges inward. The machinery is out of gear, the deformity tends to increase, and is eventually accompanied by accommodative and degenerative changes in the structure of the foot.

From this point of view, pain and deformity may be prevented by cultivation of the normal attitudes, and the disability may be permanently cured by the restoration of the normal conditions. My treatment has always been directed to this end, even to the exclusion, as far as may be, of the predisposing postures and attitudes, on the well-established principle of overcorrection. To assure this, temporary support is essential in a large proportion of the cases, and for this purpose I have always used, as an integral part of the treatment, a brace that by lateral restraint checks deformity at its source, by preventing the inward bulging, thus holding the power in its normal relation to the fulcrum. It even prevents

outward rotation of the limb, so that walking becomes the most important of the curative exercises.

It may be noted that the arch is restored by placing the foot in its proper relation to the leg. It is not forced into place, as Dr. Lovett thinks, but is relieved from pressure by balancing the weight toward the outer border of the foot.

Dr. Lovett, on the contrary, "attaches little importance to whether or not the foot is pronated" (out of gear), but relieves the strain by the use of a sole plate of indifferent shape, which, in so far as it restrains deformity, does it by direct pressure on the sole.

Apparently because "feet vary in shape as much as do our faces," he does not recognize a standard of symmetry as influenced by posture, or its relation to functional efficiency, or the importance of the two as safeguards against strain and disability. Neither does the esthetic appeal to him, although he must admit that the habitually abducted, or as he terms it, pronated foot, or the flat foot, even if efficient, is certainly unlovely in appearance, and often a source of mortification to its possessor.

Dr. Lovett thinks that painless flat foot should be left alone, and as far as the adult is concerned, the opportunity for treatment, even if desirable, is rarely offered. There is, however, a very important class of this type of deformity that should not be let alone, namely, that of children. Pain at this period of life is rather unusual, but weakness and awkwardness are the inevitable consequences of the distortion. I am convinced, therefore, that the energetic treatment of such cases, with the aim of restoring symmetry, and as it were, remolding the foot, is of very great importance, not only for its immediate utility, but as a preventive of future disability.

That improper use and deformity do not necessarily entail disability, and that treatment may relieve symptoms without restoring functional effectiveness are matters of common knowledge, as true of feet as all other forms of bodily weakness.

With most of Dr. Lovett's "heresies" which he has summarized at the end of his paper I am practically in accord. Nor do I question the accuracy of his observations or the success of his treatment.

Our vital difference is on an important principle—whether unfavorable mechanical conditions do not predispose to disabling strain and deformity under favoring circumstances, as is believed by those who examine candidates for military service, for example, and whether treatment designed to restore mechanical efficiency is not likely to be of more permanent value than one which aims merely at relief of symptoms. Royal Whitman, M.D., New York.

The Hunan-Yale Medical School and Hospital at Changsha

To the Editor:—May I state briefly something of the situation in medical education in China. The Medical Commission of the Rockefeller Foundation has recommended support by the foundation of four centers for medical education in China. One of these four is the Hunan-Yale Medical College and Hospital at Changsha, the capital of Hunan Province. This institution represents a joint agreement between Yale-in-China and a society of Chinese representing the Hunan government, for the development of a first-class school of medicine, nursing schools for men and women, respectively, a modern teaching hospital, and a diagnostic and research center for central China. The hospital, medical preparatory school, and nurses' schools are now in operation. The standards are the highest possible. The aim is quality and not quantity of work.

The support of the Rockefeller Foundation and the rapid growth in Changsha make a large increase in the medical and nursing staff necessary within the next two years. Both laboratory and clinical branches require trained men. Dr. Hume, the head of the Yale-in-China medical staff, will be in the United States until August 1, and will welcome inquiry from qualified applicants, or from men now graduating in medicine or in hospital positions, who wish to investigate these great opportunities in the orient. Address Dr. E. H. Hume, 5 White Hall, Yale University, New Haven, Conn. The scope of the Hunan-Yale institution is not limited to Yale men. Alfred C. Reed, Changsha, China.

Alcohol and the Harrison Narcotic Law

To the Editor:—Why cannot The American Medical Association father and support an amendment to the Harrison Narcotic Law placing alcohol and its by-products under its provisions? Alcohol is a narcotic and is doing more to degrade the American people than either opium or cocain. Such an amendment would require only a majority vote of Congress to pass. It would not trespass on the doctrine of states' rights. It would be constitutional. It could be easily administered and enforced as a revenue measure, as a part of the Harrison law now in force. It would put an end to the liquor business. John G. Wilson, M.D., Montrose, Pa.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INQUIRY ON THE HARRISON LAW

To the Editor:—I enclose a note received from the Treasury Department in answer to an inquiry whether the Harrison law applied to novocain, orthoform, anesthesin and aiypin.

The object of the law, of course, is to prevent people obtaining cocain for use for its intoxicating effects.

Can you tell me whether any or either of the four preparations mentioned above have been so employed and what are the constitutional symptoms? E. Hochheimer, M.D., New York.

The following is the Treasury Department decision:

(T. D. 2194, Narcotic Law)

Persons using or having in possession, cocaine, alpha or beta eucaine or any of their salts or any synthetic substitute for them, required to register, pay the special tax and comply with all the provisions and regulations issued under the authority thereof, of the act of Dec. 17, 1914, known as the Harrison Narcotic Law.

Treasury Department
Office of the Commissioner of Internal Revenue
Washington, D. C., April 26, 1915.

Synthetic substitutes. In exempting from its provisions certain preparations and remedies, the act (Sec. 6) expressly excludes from such exemptions "preparations which contain cocaine or any of its salts or alpha or beta eucaine or any of their salts or any synthetic substitute for them." To effect the obvious purpose of this provision of the act, the words "synthetic substitutes" are held to apply to any artificial substance or preparation which is or may be substituted for cocaine, alpha or beta eucaine, or any of their salts as ordinarily prescribed or used, and not necessarily to a purely synthetic substitute which, chemically, is identically the same as the drug for which it may be so substituted.

Further, both the title and Sec. 1 of this law include "opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof," and under a liberal interpretation of the word "derivative" from a chemical point of view, the several cocaine substitutes would also be clearly included.

Manufacturers of, dealers in, and physicians prescribing any such substitutes, as above defined, should therefore register and otherwise conform to the requirements of this law and the regulations issued thereunder. W. H. Osborn, Commissioner.

Approved: William P. Malburn, Acting Secretary of the Treasury.

Answer.—The intent of the ruling is to define the words "synthetic substitutes" as they appear in Section 6 of the Harrison law. They are here held to apply to "any artificial substance or preparation which is or may be substituted for cocaine, alpha or beta eucaine or any of their salts as ordinarily prescribed or used, and not necessarily to a purely synthetic substance which chemically is identically the same as the drug for which it may be so substituted." In a word, the Treasury Department makes the distinction turn on therapeutic rather than on chemical characteristics. Anything is a substitute for cocain which can be used in place of cocain (that is, to secure the same effects), regardless of chemical identity or resemblance. But this ruling is clearly only a transitory one. What are the "synthetic substitutes" that may be used in place of cocain and that must con-

sequently, under the ruling, be reported? The ruling practically leaves it to the physician. What the physician (and our correspondent, for example) wants to know is, "What drugs must I report?" This ruling is plainly an extension of the scope of the law. In order to be effective, it must be supplemented by a list of synthetic substitutes which must be reported.

The synthetic substitutes for cocain as given in the last edition of New and Nonofficial Remedies are:

Anesthesin	Non-toxic
Propaesin	Practically non-toxic
Cycloform	Soluble with difficulty; practically non-toxic
Orthoform-new	Practically non-toxic
Stovaine	From one-third to one-half as toxic as cocain
Alypin	One-half as toxic as cocain
Novocaine	Less toxic than stovain or alypin
Beta-eucaine hydrochloride	Much less poisonous than cocain
Beta-eucaine lactate	
Tropacocain hydrochloride	One-half as toxic as cocain

Whether these will all be included in the ruling of the Treasury Department it is impossible to say. How widely they are used by general practitioners is unknown. Under the ruling quoted, it would be advisable for physicians to record all cases in which any of these drugs are dispensed.

Meanwhile, THE JOURNAL can only repeat its earlier advice to physicians to use the prescribed form of prescription blank for all prescriptions and to record *all* habit-forming drugs dispensed for the time being, and in case of doubt, to give the benefit of the doubt to the law.

DID PRESCOTT DESCRIBE VERRUGA PERUVIANA?

To the Editor:—In Prescott's "Conquest of Peru" the following passage occurs on page 323 of Volume I:

"To add to their distress, a strange epidemic broke out in the little army. It took the form of ulcers or rather hideous warts of great size which covered the body, and when lanced, as was the case with some, discharged such a quantity of blood as proved fatal to the sufferer. Several died of this frightful disorder, which was so sudden in its attack and attended with such prostration of strength that those who lay down at night were unable to lift their hands to their heads in the morning."

Can you explain what disease was present?

A. W. PATTERSON, M.D., Fonda, Iowa.

ANSWER.—It seems possible that the condition mentioned was the disease prevailing in Peru known as Carrion's disease or verruga peruviana. It is marked by an initial fever, sometimes of short duration, with marked anemia and great prostration, which are followed by an eruption of warts. The latter are apt to bleed profusely when abraded or incised. This disease was mentioned as early as 1543 by Carate in his "History of Peru." Verruga has been the subject of much investigation in recent years, among the latest publications being the report of an expedition conducted by the Department of Tropical Medicine of Harvard University (THE JOURNAL, Nov. 8, 1913, p. 1713).

THE LANDAU TEST

To the Editor:—It would seem that THE JOURNAL has been led into error in stating the technic of the Landau test. More recent literature seems to indicate that the quantity of the reagent used by Landau in his second technic should be 0.1 rather than .01 c.c.

A. W. STILLIANS, M.D., Chicago.

ANSWER.—The Italian journal—*Revista Ospedaliera*, Rome, July 15, 1914—from which THE JOURNAL copied the Landau technic, stated that 0.01 c.c. of a 1 per cent. solution of iodin in carbon tetrachlorid should be used in making this test. Additional foreign literature—*Presse médicale*, May 2, 1914, p. 335, and others—state that the correct quantity is 0.10 c.c.

THE GHEEL COLONY FOR THE INSANE

To the Editor:—If known will you kindly mention through THE JOURNAL what, if anything, has befallen the famous colony for the family care of the insane at Gheel, Belgium, since the clash of arms began in that distracted country?

This inquiry has been made, but vainly, in many directions.

GEORGE HOMAN, M.D., St. Louis, Mo.

ANSWER.—Perhaps some of our readers can furnish this information.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: Dover and Wilmington, June 15-17. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Jacksonville, June 15-16. Sec., Dr. E. W. Warren, 102 Front St., Palatka.

GEORGIA: Atlanta and Augusta, June 2-4. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 24-26. Sec., Dr. C. St. Clair Drake, Springfield.

IOWA: Iowa City, June 10-12. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 8-10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Louisville, June 8-10. Sec., Dr. A. T. McCormack, Bowling Green.

LOUISIANA: New Orleans, June 3-5. Sec., Dr. E. L. Leckert, 716 Machea Bldg., New Orleans.

MARYLAND: Baltimore, June 21. Sec., Dr. J. McP. Scott, Hagerstown.

MARYLAND: Homeopathic, Baltimore, June 15-16. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave., Baltimore.

MICHIGAN: Detroit, May 27-29; Ann Arbor, June 8-10. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 1-4. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 15-16. Sec., Dr. E. H. Galloway, Jackson.

MISSOURI: St. Louis, June 21-23. Sec., Dr. J. A. B. Adcock, State House, Jefferson City.

NEBRASKA: Lincoln, June 10-11. Sec., Dr. H. B. Cummins, Seward.

NEW JERSEY: Trenton, June 22-23. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 25-28. Mr. Harlan H. Horner, Chief, Examination Division, State Education Bldg., Albany.

NORTH CAROLINA: Greensboro, June 8. Sec., Dr. H. A. Royster, Raleigh.

OHIO: Columbus, June 8-11. Sec., Dr. George H. Matson, Columbus.

PENNSYLVANIA: Philadelphia and Pittsburgh, June 1-3. Sec., Dr. Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: Columbia, June 8. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TEXAS: Austin, June 22-24. Sec., Dr. M. P. McElhannon, Belton.

VIRGINIA: Richmond, June 22-25. Sec., Dr. J. N. Barney, Fredericksburg.

New Mexico January Report

Dr. W. E. Kaser, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fé, Jan. 11-12, 1915. The total number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. One candidate was examined and passed. Fourteen candidates were licensed on satisfactory credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Southwestern University		(1911)	90

College	LICENSED ON CREDENTIALS	Year Grad.	Total No. Licensed
Arkansas Industrial University		(1888)	1
University of Colorado		(1913)	1
Medical College of Indiana		(1903)	1
University of Kansas		(1911)	1
Kentucky School of Medicine		(1888) (1898)	2
College of Phys. and Surgs., Baltimore		(1903)	1
Tufts College Medical School		(1908)	1
St. Louis College of Phys. and Surgs.		(1903)	1
College of Phys. and Surgs. in the City of N. Y.		(1889)	1
Starling Medical College		(1901)	1
Jefferson Medical College		(1891)	1
University of Pennsylvania		(1900)	1
University of Edinburgh		(1912)	1

Oregon January Report

Dr. L. H. Hamilton, secretary of the Oregon State Board of Medical Examiners, reports the practical and written examination held at Portland, Jan. 7-9, 1915. The total number of subjects examined in was 15; total number of questions asked, 108; percentage required to pass, 75. The total number of candidates examined was 42, of whom 25 passed, including 1 nongraduate and 17 failed, including 3 osteopaths and 5 nongraduates. The following colleges were represented:

College	PASSED	Year Grad.	Total No. Examined
California Eclectic Medical College		(1914)	1
College of Phys. and Surgs., San Francisco	(1910)	(1914)	2

Hahnemann Medical College of the Pacific	(1913)	1
Bennett Medical College	(1914)	1
Rush Medical College	(1903) (1914)	2
Louisville and Hospital Medical College	(1908)	1
University of Minnesota	(1894)	1
Barnes Medical College	(1905)	1
St. Louis University	(1906)	1
University Medical College, Kansas City	(1904)	1
Bellevue Hospital Medical College	(1871)	1
Coll. of Phys. and Surgs., in the City of New York	(1885)	1
University of Oregon	(1907) (1914,2)	3
Jefferson Medical College	(1913) (1914)	2
University of Pennsylvania	(1897)	1
Meharry Medical College	(1913)	1
University of Virginia	(1907)	1
McGill University	(1907)	1
Nippon Medical College, Tokyo	(1909)	1
Nongraduates		1
FAILED		
Chicago College of Medicine and Surgery	(1914)	1
University of Louisville	(1913)	1
Baltimore Medical College	(1901)	1
Univ. of Michigan, Homeopathic Medical College	(1913)	1
University of Minnesota	(1891)	1
St. Louis University	(1908)	1
University of Oregon	(1910)	1
Willamette University	(1905)	1
Milwaukee Medical College	(1912)	1
Nongraduates		5

Washington January Report

Dr. Conrad N. Suttner, secretary of the Washington State Board of Medical Examiners, reports the written examination held at Walla Walla, Jan. 5-8, 1915. The total number of subjects examined in was 11; total number of questions asked, 132; percentage required to pass, 60. The total number of candidates examined was 45, of whom 42 passed, including 7 osteopaths, and 3 failed. The following colleges were represented:

College	Passed	Year Grad.	Total No. Licensed
California Eclectic Medical College		(1914)	1
Hahnemann Medical College of the Pacific		(1913)	1
University of California		(1898)	1
Georgetown University		(1914)	1
American Med. Missionary College, Chicago		(1906)	1
College of Phys. and Surgs., Chicago		(1909)	1
Northwestern University		(1894)	1
Rush Medical College	(1887) (1912)	(1914)	3
University of Illinois		(1914)	1
Indiana University		(1910)	1
Kansas Medical College		(1896)	1
University of Louisville		(1912)	1
Baltimore Medical College		(1912)	1
Johns Hopkins University		(1910) (1913)	2
University of Mich., Dept. of Med. and Surg.		(1883)	1
Missouri Medical College		(1883)	1
St. Louis College of Phys. and Surgs.		(1893)	1
St. Louis University		(1913)	1
Dartmouth Medical School		(1898)	1
Starling-Ohio Medical College		(1912) (1914)	2
Hahnemann Med. Coll. and Hosp., Philadelphia	(1899)	(1909)	2
Jefferson Medical College	(1900) (1910) (1912)	(1913)	4
University of Pennsylvania		(1913)	1
University of Vermont		(1906)	1
University of Toronto		(1908)	1
Fukuoka Medical College, Japan		(1910)	1
Imperial University, Tokyo		(1889)	1
FAILED			
Kentucky School of Medicine		(1881)	1
University Medical College, Kansas City		(1903)	1
Vanderbilt University		(1887)	1

Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the practical and written examination held at Providence, April 1-2, 1915. The total number of subjects examined in was 7; total number of questions asked, 8; percentage required to pass, 80. The total number of candidates examined was 6, of whom 4 passed and 2 failed. The following colleges were represented:

College	Passed	Year Grad.	Per Cent.
Georgetown University		(1914)	92.5
Medical School of Maine		(1908)	88.5
College of Phys. and Surgs., Baltimore		(1914)	80.2
Harvard University		(1889)	80
FAILED			
University of Georgia		(1913)	78.6
Tufts College Medical School		(1908)	71.6

Book Notices

Diseases of the Stomach and Their Relation to Other Diseases. By Charles G. Stockton, M.D., Professor of Medicine, Medical Department University of Buffalo. Cloth. Price, $6. Pp. 774, with 92 illustrations. New York: D. Appleton & Co., 1914.

In an introduction of about ten pages, Dr. Stockton gives his reasons for writing this book. The principles enunciated in this introduction are important and should be carefully read by any one who is interested in the subject. Although an internist of wide and extensive clinical experience, Stockton has for many years given much thought and close study to diseases of the alimentary tract. He approaches the subject of diseases of the stomach not only from a thorough investigation of primary diseases of the stomach, but also from the outside point of view gained by a thorough knowledge of general pathology. He recognizes the existence of many disturbances of the gastro-intestinal tract as due to systemic conditions. His treatment of the subject of functional diseases of the stomach is admirable. Carcinoma of the stomach is viewed broadly and judicially. Ulcer of the stomach, one of the most important subjects related to diseases of that organ, is very fully covered. He discusses the various theories as to etiology of ulcer. His attention has not been called to the significant work done by E. C. Rosenow of Chicago on the causation of ulcer. At the same time he recognizes focal infection about the dental alveoli and tonsils as sources of hematogenous focal infection of the stomach wall as a cause of ulcer. This will probably prove the primary cause of ulcer of the stomach and duodenum. He recognizes, as all others must, that the primary step in ulcer formation of the stomach is due to devitalization of a small area of the stomach mucosa, and this may occur from several causes. The chief one we believe to be focal infection. A local devitalized tissue may be attacked by the digestive juices of the stomach and an ulcer result. Continued corrosive action of the gastric juice is the chief cause of the continuation of the ulcer, as proved by B. W. Sippy of Chicago. In the treatment of ulcer, Stockton is rational in the recognition of the necessity of reducing the hyperacidity of the gastric juice and the use of a bland nonirritating diet. He could go further in the principles of treatment by directing that the diminution of the acid should be carried to the degree of the entire removal of free hydrochloric acid, to prevent absolutely further corrosion. His discussion of the superiority of medical management over the surgical treatment of ulcer of the stomach and the recognition of the necessity of surgical treatment in certain states is very wise. There are chapters on ptosis of the abdominal organs, gastritis, vomiting, cardiospasm and stricture of the esophagus, and lastly, an excellent short article on alimentation. The author is to be congratulated on the production of a book which will be an excellent guide to the practitioner and to the medical student.

Transactions of the Fifth Annual Meeting of the American Association for Study and Prevention of Infant Mortality. Paper. Price, $3. Pp. 391. Baltimore: 1211 Cathedral Street.

The report of the Boston meeting (1914) of the American Association for the Study and Prevention of Infant Mortality is an index of the growth of the association since its founding in 1910. With this growth, the association has broadened in its scope. In the beginning, the conservation of infant life was sought chiefly through better feeding and the creation of a purer milk supply. It was soon found, however, that intelligent motherhood was one of the prime essentials, and much of the more recent effort has been directed toward the education of mothers in personal and baby hygiene, and in prenatal care. The securing of proper registration of vital and morbidity statistics as affording a basis for intelligent effort at infant conservation, nursing and social work in general has likewise become prominent in the work. Many of the papers in the report, including that of the president, Dr. J. Whitridge Williams, deal with

prenatal care in its various aspects and in the care of institutional babies, almost to the exclusion of other subjects. Most of the authors emphasize the difficulties and the rather unsatisfactory results of caring for babies in institutions and the desirability of placing them in homes, and Chapin even advocates the abolishment of institutions for babies altogether. There are many papers on nursing and social work, on obstetrics and related subjects, besides reports and discussions on various aspects of infant conservation and welfare.

LEGAL PRINCIPLES OF PUBLIC HEALTH ADMINISTRATION. By Henry Bixby Hemenway, A.M., M.D. Introduction by John Henry Wigmore, LL.D., Dean Northwestern University Law School. Cloth. Price, $7.50. Pp. 859. Chicago: T. H. Flood & Co., 1914.

Dean Wigmore says in his introduction, "This book is a sign and a product of the times." It is an attempt to set forth the principles of the law as applied to community health as a public function. It endeavors to answer several important questions, among these being whether the law as it has been handed down to us can meet the necessities of applied science, that is, whether the old and settled principles of law will serve our modern knowledge of sanitation; whether present-day questions of public health call merely for a new application of old principles or for their destruction and the creation of new ones, and whether the attempt to legislate for the benefit of the public health is but a changed phase of the conflict between individual liberty and the general welfare. The book further attempts to make law and science better acquainted and to make judges, lawyers and health officers familiar with each others' everyday principles and assumptions. The task of setting forth the law and exhibiting its lines of contact with the demands of science, as well as pointing out the necessary adjustment of medical methods to the fundamental restrictions of the law, is a difficult and delicate one. It must be admitted that some of the passages in the book are platitudinous and that others are open to argument. The task of welding together the two bodies of learning is one which, even at the hands of a person uniting rarely the requisite accomplishments of learning in both sciences, can hardly be done so as to satisfy in every detail the professions of law and medicine.

Dr. Hemenway has divided his book into two parts, which in turn are subdivided into twenty chapters. The first part deals with the general principles and the second part with special subjects. In Part I he takes up chapter by chapter the relationship of public health to the body politic and the scientific basis of public health efforts; the underlying principles of government, the common law, constitutions, institutions and statutes; the triple system of government and the relation of each branch to public health administration; the executive organization; the judiciary; the police power, its nature and methods; due process of law; nuisances; public health powers and their limitations, national, state and municipal; officers; liabilities; legal remedies, and vital statistics. In Part II there are considered quarantine and allied subjects; licenses; water supplies, drains and garbage disposal; pure food and drug regulation; industrial regulation; school inspection, and eugenics. The author has failed in some instances to develop the true value of the cases dealing on public health questions; for instance, the case of *Health Department* v. *Trinity Church*, 145 N. Y. 32 is a key case, developing as it does the fundamental principles of the law as they apply to public health problems. Apparently, the author has cited this case in but two places, on pages 198 and 235. In neither place does it appear that he has appreciated its full value. On the other hand, he handles with great ability, although possibly too briefly, the law of nuisances. He dismisses this subject leaving the idea in the mind of the reader that this phase of the law is yet in a formulative state, which is probably true. He brings out the fact that many of the early cases which passed on the question of nuisances in regard to the public health were tried before modern ideas of science were developed. This may be correct, but it does not render those cases worthless, as it might appear that the principles which applied to the facts as then developed still apply to the facts as we know them today. The value which should be attached to the book is to be measured by the weight which is to be attached to the author's opinions and to the extent to which he adheres to the law as found in the precise language of the cases and law writers. The industry and energy of the author is deserving of high commendation. The book will doubtless help to bring about a clearer knowledge of the legal aspects of public health work.

MEDICAL ELECTRICITY, RÖNTGEN RAYS AND RADIUM. With a Practical Chapter on Phototherapy. By Sinclair Tousey, A.M., M.D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second Edition. Cloth. Price, $7.50. Pp. 1219, with 798 illustrations. Philadelphia: W. B. Saunders Company, 1915.

The first edition of this work was reviewed in THE JOURNAL, Aug. 20, 1910, when mention was made of the great mass of facts collected by the author and the difficulty which the reader would experience in getting systematic instruction from the material presented. The comprehensive and detailed character of the work enhances the difficulty of bringing it fully up to date. The author has endeavored, however, to keep his book in touch with the widening field of electrotherapy and its allied subjects, which include the comparatively new ones of phototherapy and the application of radium. In the latter field he is conservative and, while giving a fairly full account of the uses of radium in surgery, says practically nothing of its use in internal diseases. Intravenous injections are mentioned and the dosage given, but the author does not seem to be enthusiastic over them. The book is well illustrated and will prove useful to those who wish a comprehensive work on these subjects.

HOUSES FOR MINING TOWNS. By Joseph H. White. Paper. Price, 15 cents. Pp. 58, with illustrations. Department of the Interior, Bureau of Mines, Bulletin No. 87. Washington: Superintendent of Documents, 1914.

This bulletin contains suggestions for the improvement of housing in mining towns, and the planning of such towns to secure the best return in health and efficiency for the workers as well as for the mine operators. Although the actual loss which is occasioned by insanitary and uncomfortable environment may not be readily measurable, it is nevertheless real, and justifies the department in its investigations looking to improvement in this respect. Among the subjects touched on are the town site and arrangement, advantages of establishing the town near the plant as well as away from the plant, and such details as width of streets, construction of sidewalks and gutters, situation and size of houses and lots, types of houses of different materials and the advantages of each. Plans and illustrations, arrangement of houses and details of lighting and heating, and many other features of comfort, artistic arrangement and surroundings are discussed. Water supplies, gardening, disposal of wastes, the keeping of animals, etc., are also described. The sociologic aspects of housing are not touched on to any extent. The pamphlet is valuable for its suggestions as to the way for improving living conditions in mining villages and towns.

CYSTOSCOPY AND URETHROSCOPY FOR GENERAL PRACTITIONERS. By Bransford Lewis, B.S., M.D., F.A.C.S., Professor of Genito-Urinary Surgery, Medical Department of St. Louis University, and Ernest G. Mark, A.B., M.D., F.A.C.S., Professor of Genito-Urinary and Venereal Diseases in the University Medical College, Kansas City, Mo. With a Chapter by William F. Braasch, Attending Physician to the Mayo Clinic, Rochester, Minn. Cloth. Price, $4.50 net. Pp. 238, with 113 illustrations. Philadelphia: P. Blakiston's Son & Co., 1915.

The authors cover the subject of modern cystoscopy and urethroscopy completely, giving first an interesting and impressive review of the developmental stage of this phase of genito-urinary surgery. Stress is laid on the authors' own instruments, which are creditable. The subjects of renal functional tests and fulguration are concretely discussed. To the text is added a chapter on pyelography by Braasch, including his splendid illustrations.

Medicolegal

Damages for Injury to Spinal Cord

(Padrick vs. Great Northern Railway Co. (Minn.), 150 N. W. R. 807)

The Supreme Court of Minnesota holds that a verdict of $35,000 was excessive, and should be reduced to $30,000, in this personal injury case, in which the evidence showed an injury to the spinal cord which permanently crippled the plaintiff, virtually destroyed all earning capacity, and so paralyzed him that he was unable to attend to his wants without assistance. The court says that it realizes that it would not take more than about one-third of the amount of the verdict in this case to compensate the plaintiff for his lost earning capacity, and about an equal amount, perhaps, to procure the needed personal attendance. Did the balance more than compensate him for his sufferings, discomforts, humiliation, and deprivation of all those enjoyments and anticipations of life ordinarily experienced by persons in possession of the usual physical powers and capabilities? Since no money compensation can ever be adequate for permanent personal injuries of such serious character as the ones here involved, it is apparent that courts or legislatures must fix some limit, arbitrary though it be, on the amount of recovery. Otherwise, there will be a tendency to paralyze human endeavor, for these deplorable accidents do happen, and, if there be no limit to a recovery, few enterprises will be strong enough financially to survive a verdict of a jury in personal injury actions of serious consequences. The record showed that the plaintiff had the appearance of being well nourished, he was not bedridden, he could move about to a limited extent, his mind was unimpaired, and one physician was of the opinion that he might be able to do some easy clerical work. On a consideration of the whole case, the court is of the opinion that the verdict should be reduced to $30,000.

Statute Construed as Permitting Waiver of Privilege in One Way Only

(Arizona & New Mexico Railway Co. vs. Clark (U. S.), 35 Sup. Ct. R. 210)

The Supreme Court of the United States, in affirming a judgment in favor of plaintiff Clark, for personal injuries, holds that, under the Arizona statute, there was no error in excluding the evidence of two physicians called by the defendant for the purpose of testifying to the results of a personal examination of the plaintiff shortly after he received his injuries, although the plaintiff had testified personally in regard to his injuries and called as a witness a nurse who had attended him after the accident, who testified as to the condition of the eye that had been injured. The court says that, under the Arizona statute, without the consent of the patient, the physician's testimony is excluded with respect to two subjects: (a) any communication made by the patient with reference to any physical or supposed physical disease, and (b) any knowledge obtained by personal examination of such patient. And this privilege is waived, according to the terms of the proviso, only in the event that the patient offers himself as a witness and voluntarily testifies "with reference to such communications." The court would have to ignore the plain meaning of the words in order to hold, as it was asked to do, that the testimony of other witnesses offered by the patient, or the testimony of the patient himself with reference to other matters than communications to the physician, or any averments contained in the pleadings, but not in the testimony, amount to a waiver of the privilege. The enactment contemplates that the physician receives in confidence what his patient tells him, and also what the physician learns by a personal examination of the patient. It contemplates that the patient may testify with reference to what was communicated by him to the physician, and in that event only it permits the physician to testify without the patient's consent. The court cannot, without encroaching on the domain of legislation, declare that there is no substantial ground for a distinction between the information the physician gains from verbal communications made by the patient and the far wider knowledge that he derives from his personal examination of the patient. Certainly it cannot be said that when the patient afterwards has occasion to make averments and adduce evidence respecting the nature of the ailment or injury, he thereby necessarily publishes to the world the facts as disclosed to the physician through the physical examination. The framer of the act was careful to choose language that recognizes the distinction between (a) communications made by the patient and (b) knowledge obtained by the physician through a personal examination of the patient. The New York statute, which, so far as this court has observed, was the first to establish a privilege with respect to the knowledge gained by a physician while attending a patient in a professional capacity, recognizes no such distinction. Nor does it define with precision what conduct on the part of the patient shall constitute a waiver of the privilege. Hence the courts of that state deemed themselves at liberty to determine this question on general principles, derived from the supposed policy of the law. Not only, therefore, are the decisions of the courts of that state, and of other states having statutes formed on the same model, valueless as guides to the meaning of the statute here in question, but the very fact that the legislature of Arizona departed from the form of the New York statute indicates that it did so because it had a different purpose to express. This court is unable to see anything that would justify it in refusing judicial recognition thus laid hold of by the lawmaking body in defining the extent and conditions of the privilege.

A Disease Common to Both Sexes

(Russell vs. Fraternities Health & Accident Association (Me.) 92 Atl. R. 820)

The Supreme Judicial Court of Maine overrules a motion for a new trial, after a verdict for the plaintiff, who sued on a health and accident insurance policy. The court says that the policy contained the provision that "benefits shall not be allowed for sickness or disease not common to both sexes." The plaintiff was afflicted with a cystic tumor on one of her ovaries. The only question was whether such tumor was a sickness or disease not common to both sexes. Three medical witnesses testified that it was common to both sexes. The medical director of the defendant testified that it was not common to both sexes, but admitted that the male sex did have cystic tumors. The jury found, as they were authorized to do from the evidence, that the disease was one common to both sexes.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, SAN FRANCISCO, JUNE 21-25.

American Academy of Medicine, San Francisco, June 25-28.
Am. Assn. Gen.-Urin. Surgs., White Sulphur Springs, W. Va., May 18-20.
American Climatological and Clin. Association, San Francisco, June 18-19.
Amer. Gynecological Society, White Sulphur Springs, W. Va., May 18-20.
American Laryngological Association, Niagara Falls, June 1-3.
American Otological Society, Niagara Falls, June 3-4.
American Pediatric Society, Lakewood, N. J., May 25-27.
American Society of Tropical Medicine, San Francisco, June 14-16.
American Surgical Association, Rochester, Minn., June 9-11.
Arizona Medical Association, Prescott, June 17-18.
Connecticut State Medical Society, Hartford, May 19-20.
Illinois State Medical Society, Springfield, May 19-20.
Maine Medical Association, Poland Springs, June 9-10.
Massachusetts Medical Society, Boston, June 8-9.
Nat'l Assn. for the Study and Prev. of Tuberculosis, Seattle, June 14-16.
Nebraska State Medical Association, Hastings, May 18-20.
Nevada State Medical Association, Reno, June 17-19.
New Hampshire Medical Society, Concord, May 19.
New Jersey Medical Society, Spring Lake, June 22-24.
North Carolina State Medical Society, Greensboro, June 16.
Rhode Island Medical Society, Providence, June 3.
South Dakota State Medical Association, Sioux Falls, May 18-20.

Miscellany

A Local Study of Ventilation Problems

The Chicago Ventilation Commission, appointed about five years ago, has made numerous studies and observations of the ventilation question, and now has issued its first report. This commission is a delegated voluntary organization composed of representation from the following organizations: Department of Health of the City of Chicago, Illinois Chapter of the American Society of Heating and Ventilating Engineers, Public Schools of Chicago, Illinois Society of Architects, Illinois Chapter of the American Institute of Architects, and Western Society of Engineers. The summary is made at this time in order that the organizations having membership in the commission may have a detailed record of its work, and also because numerous inquiries have been received, prompted by a recent increased interest in the ventilation problem and changing views concerning it. The commission reports on tests conducted on the ventilation of passenger cars, picture theaters, an experimental schoolroom, an office and an experimental cabinet. It has endeavored to study ventilation under actual everyday conditions. Among the opinions (rather than conclusions) expressed, a few may be summarized as follows: Carbon dioxid as encountered in working practice is not the harmful agent of major importance; a temperature of 68 degrees with a proper relative humidity is the correct temperature for artificially lighted living rooms; it is at present impossible to designate all harmful factors in or associated with expired air; the principle of ventilation by currents is preferable to the principle of ventilation by dilution, and smaller volumes of air are sufficient when introduced by currents; convection in the production of currents is effective and economical; upward ventilating currents in crowded rooms are desirable, provided the sources of air supply are free of contamination; the delivery of a certain volume of air per unit of time, per occupant, into a given space does not necessarily constitute ventilation; air introduced into an occupied room in such a way that it strikes the occupants should not be lower in temperature than 60 degrees; heating and ventilation are two distinct problems, and the installation of heating and ventilating systems, whether separate or combined, should be such that neither system interferes with the efficiency of the other; from the standpoint of health, relative humidity is one of the important factors in ventilation; air cleaning devices are desirable; the bacterial content of air is an important factor in ventilation, and bears a direct relation to the source and quantity of air supply. Equally interesting opinions are given concerning the ventilation of street cars, moving picture theaters, schoolrooms, etc. The report gives details of the tests, descriptions and illustrations of the apparatus, etc. Such work represents a practical study of a live, every-day problem.

Early Phenomena in Mouth and Throat During Prodrome of Smallpox

K. Walko, professor of internal medicine in Prague, is in charge of the contagious disease hospital at Ujvidek in the eastern zone of war. He has been making a special study of the behavior of the mucous membrane in the mouth and throat to ascertain whether something analogous to Koplik's spots in measles might not be discovered. In three cases which he describes in detail, during the period of incubation or the prodrome, there were pronounced findings on the mucosa, beginning as a diffuse redness and swelling, and then brighter red spots developed at various points. This red spotting persisted during the whole of the disease or developed into actual superficial ulcers. The participation of the buccal and throat mucosa in the active disease process is not only an aid in diagnosis but it also suggests that droplet infection may occur even during the incubation or prodromal period. One physician contracted smallpox from a patient who coughed while he was being examined. The physician had not touched him or any article in the room, but eight days after this visit the symptoms of the disease became manifest. Walko's communication appears in the *Prager medizinische Wochenschrift*, March 25, 1915.

The Feebleminded in Ohio

The Ohio Board of Administration, in a recent publication (Publications, March, 1915), discusses the problem of the feebleminded in Ohio. It has been estimated that at least 0.3 per cent. of our population — from 300,000 to 400,000 persons — is feebleminded. Only about 20,000 of these are cared for in institutions for the feebleminded, and a somewhat larger number in infirmaries and other institutions. Not over one-third of the feebleminded in the United States are under custodial care. In Ohio, the report states, it is estimated that there are from 10,000 to 15,000 feebleminded children. The institutions for the feebleminded of that state can take care of only about 2,000, less than 20 per cent. Some of the remainder are in infirmaries, reformatories and penitentiaries, and others swell the number of juvenile delinquents in the industrial schools. Those not in institutions or under proper guidance are left free to perpetuate the defective stock. The mental examination of the delinquents in the Girls' and Boys' Industrial School and Home reveals startling results. Of 100 girls examined, 59 were feebleminded, 14 borderline cases, 13 mentally retarded, and only 14 of normal mentality. Of the 100 boys examined, 46 were feebleminded, 26 borderline cases, 11 mentally retarded, and only 17 of normal mentality. Investigations among adults have shown that over 50 per cent. of prostitutes, 25 per cent. of reformatory and penitentiary inmates, and probably 75 per cent. of infirmary inmates are feebleminded. The results of investigations in Ohio coincide with the findings elsewhere that from 60 to 80 per cent. of the feeblemindedness in Ohio is due to bad heredity. The institutions have attempted to discipline and train delinquents before returning them to society. This, it appears, is the proper course to pursue in the case of normal children, who through bad surroundings or other accidental circumstances are committed to these institutions, but defective children cannot be reclaimed in this way. Institution training and discipline may serve to cover their defects, but can never bring them up to normal. To give them such training and then turn them loose on the community is a moral and economic blunder. The frequent appearance of these defectives in the reformatories and penitentiaries proves that the present system of handling this unfortunate class does not meet the requirements of the situation. The report of the Ohio board is suggestive and is an interesting addition to the considerable volume of information now accumulating concerning the problems of the feebleminded.

The Value of Preliminary Education

It is often of interest to note how simple truths of great importance today were recognized generations ago. In a personal letter Oliver Goldsmith, distinguished English author, humorist, poet, and in his youth, physician, wrote the following comment on the value of preliminary education for the study of medicine:

"Give me leave to say that the circle of science which I have run through, before I undertook the study of physic, is not only useful, but absolutely necessary to making a skilful physician. Such sciences enlarge our understanding, and sharpen our sagacity; and what is a practitioner without both but an empiric, for never yet was a disorder found entirely the same in two patients. A quack, unable to distinguish the particularities in each disease, prescribes at a venture; if he finds such a disorder may be called by the general name of fever, for instance, he has a set of remedies which he applies to cure it, nor does he desist till his medicines are run out, or his patient has lost his life. But the skilful physician distinguishes the symptoms, manures the sterility of nature, or prunes her luxuriance; nor does he depend so much on the efficacy or medicines as on their proper application."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

May, IX, No. 5, pp. 353-460

1 *Mode of Infection and Etiology of Epidemic Poliomyelitis. S. Flexner, New York.
2 *Leukocyte Counts During Digestion in Bottle-Fed Infants. A. G. Mitchell, Philadelphia.
3 *Influence of Menstruation on Breast Milk. C. G. Grulee and F. C. Caldwell, Chicago.
4 An Effective Breast Pump. (Mouth Suction Vacuum.) F. C. Caldwell, Chicago.
5 *Experiences with High Caloric Diet in Typhoid of Infants and Young Children. L. E. La Fétra and L. C. Schroeder, New York.
6 *Roentgen Ray in Diagnosis of Pulmonary Conditions in Children. W. M. Hartshorn, New York.
7 *Cases of Epidemic Cerebrospinal Meningitis Treated Successfully with Flexner's Antimeningitis Serum. W. A. Smith, Webster Groves, Mo.
8 *Study of One Hundred and Five Cases of Tuberculous Meningitis. A. E. Meyers, San Francisco.
9 Acrocephalosyndactylism. B. F. Davis, Chicago.
10 *Congenital Intestinal Obstruction. V. C. Rowland, Cleveland.

1. **Etiology of Poliomyelitis.**—A summary is given by Flexner of his views on the etiology of poliomyelitis. He says that the microbic agent of epidemic poliomyelitis is present in the nasal and buccal secretions and is carried by persons, not insects, and communicated by them in such manner as to gain access to the upper respiratory mucous membranes of other persons, among whom a portion, being susceptible to the injurious action of the virus, acquire the infection and develop the disease. The clinical variety or form of the disease which they develop may be the frankly paralytic, the meningitic, or the abortive and ambulatory in which no severe symptoms whatever appear. But however the persons may be affected, they become potential agents of dissemination of the virus of poliomyelitis, as do a number of healthy persons who have been in intimate contact with those who are ill, and another group of persons who have recovered from an acute attack of poliomyelitis. These several classes of infected or contaminated persons constitute the active means through which the virus is spread and to the control of which sanitary measures designed to prevent epidemics must be directed. Finally, the virus or microbic agent of epidemic poliomyelitis appears now to have been cultivated and to consist of minute globular bodies, capable of being distinctly viewed under the high powers of the microscope.

2. **Leukocyte Counts.**—Mitchell's report is based on a study of fifty children, on whom over 700 blood counts were made. The method of study pursued was to take a leukocyte count immediately before feeding, immediately after feeding, fifteen minutes after feeding, one-half hour after, one hour after, one and a half hours after, and so on every half-hour until the next feeding. The infants on whom this study was made were all bottle-fed, and, while not exactly normal children, were of the type usually seen in a hospital ready for discharge. The results of the analysis of these cases are interesting, in that physiologic leukocytosis after feeding was not found in most instances, and the opposite condition of leukopenia prevailed. Of the fifty children, only six, or 12 per cent., constantly showed an increase in the white blood cells during digestion, although sixteen, or 32 per cent., showed at times an increase, and at others a decrease. Contrasted with this, twenty-eight, or 56 per cent., constantly showed a decrease in leukocytes during digestion; 28.3 per cent. showed leukocytosis and 68.3 per cent. leukopenia. The remaining 3.3 per cent. were so irregular as to be undeterminable.

As to why some children show leukocytosis and others leukopenia after food, and why the same child may show at times an increase and at times a decrease after food—Mitchell offers no explanation. Careful study of the cases as regards age, gain or loss in weight, character of stools, nature of food, temperature, and time of day did not show any definite relation. Six children were studied through a four-hour period, beginning at 9 a. m., and received no food then or for several hours before. These all showed a gradually decreasing leukocyte count. A theory offered by Mitchell is that ingestion of food, and beginning of the activities of the gastro-intestinal tract, both glandular secretion and muscular movement thus causing increased blood supply to the splanchnic area, may attract leukocytes away from the superficial blood, and result in a diminished number of cells when counted by the ordinary methods.

Mitchell concludes his article as follows: Bottle-fed babies do not constantly show digestive leukocytosis; in fact, the majority show a smaller number of leukocytes in the superficial blood after taking food than before. This decrease is greatest at from one to two and a half hours after food, and tends to rise before the next feeding. When a rise does occur, it is most frequently soon after feeding, and begins to decline in a half hour. Crying, struggling and chilling of the part from which the blood is extracted increases the count. Mitchell suggests that comparative counts be made at the same time of day, and at the same time in relation to food.

3. **Influence of Menstruation on Breast Milk.**—The subject of the study by Grulee and Caldwell was a baby born with a harelip and cleft palate, nursed for nine months by means of a specially devised breast pump. The mother's menstrual period began six weeks after birth and continued throughout the nursing. The quantity of milk was carefully measured, especially during the last four months of lactation, and there was shown a distinct relation between the quantity of breast milk and the occurrence of the menstrual period. This consisted in a period of increase of breast milk beginning with the first day of menstruation and lasting from ten days to two weeks thereafter. There then occurred a diminution in the quantity which reached its lowest point four to seven days previous to menstruation after which there was a gradual increase. The only constant effect of the menstrual period on the baby was that he did not gain so much in weight during the ten days preceding the period as he did the ten days following the period. Sometimes he cried a little more than usual or was a little fretful before the period began, and sometimes during the same time he had a few extra bowel movements with a slight greenish color, but these changes were inconstant.

5. **Diet in Typhoid.**—The children studied by La Fétra and Schroeder were fed at three-hour intervals, beginning at 6 a. m. and continuing until 9 p. m., six feedings in the twenty-four hours. The articles given were such as would be prescribed for a child in health, with the exception that the only meat used was creamed chicken. In order to increase the caloric value of the liquid food, which was practically always milk, lactose and cocoa and usually cream were added. In no case was an exclusive milk diet used; every patient took cereals in some form. Eggs and toast were offered from the beginning. No attempt was made to have either an upper or a lower limit of protein, but the general rule was adhered to, to have the protein calories not less than 7 nor more than 15 per cent. of the total number of calories given. The number of calories that were actually taken after the first few days, and that seemed from a clinical point of view to have been satisfactorily utilized, varied from 100 to 300 calories per kilogram. As regards utilization of the food the urine in these cases very seldom showed any more than a slight trace of indican. The authors found that this high caloric diet, besides preventing the emaciation usual in this disease, greatly increases the comfort of the patient, prevents the severe nervous symptoms and lessens the dangers of the disease and of its complications.

6. **Roentgen Ray in Pulmonary Diagnosis.**—The Roentgen ray is regarded by Hartshorn as being of distinct value in the diagnosis of diseases of the respiratory tract. In pneumonia a shadow may appear over the suspected area several days before the development of definite physical signs. It is of value in determining the progress of lung involvement.

Roentgenograms may be taken on successive days as long as there are signs of active advancement of the process. The Roentgen ray offers material assistance in differential diagnosis, tuberculosis, abscess of the lung, lobar and bronchopneumonia. Through the obliteration of the costal-phrenic angle, the Roentgen ray indicates the presence of an exudate.

7. **Cerebrospinal Meningitis Treated with Flexner's Antimeningitis Serum.**—The cases cited by Smith emphasize the fact that in any case of meningococcus meningitis, no matter of what duration, provided viable meningococci are present, Flexner's antimeningitis serum should be used repeatedly, and that even in apparently unfavorable cases, complete recovery may occur.

8. **Tuberculous Meningitis.**—Of the 105 patients studied by Meyers, measles was mentioned in the past history of twenty-seven cases, or 26 per cent., whooping cough in 22 per cent.; pneumonia, 11 per cent.; chickenpox, 8 per cent.; bronchitis, 6 per cent.; diphtheria, 6 per cent.; mumps, 4 per cent.; otitis media, 4 per cent. Some of the patients had had only one disease, while others had had four or five. Thirty-eight per cent. had had no previous mentioned disease.

Lumbar puncture was done at least once in all the cases, but as often as seven times in 2 cases. Many of the patients seemed to brighten up after the withdrawal of spinal fluid, and in not a few cases there followed a remission of pulse and temperature. In no case was there any record of any harm having been done owing to the withdrawal of too much spinal fluid. Tubercle bacilli were found in 21.5 per cent. of the cases. Seventeen per cent. of the cases were verified by necropsy, no organisms having been found. The spinal fluid was under pressure in 80 per cent. of the cases; in 11 per cent. the pressure was normal; in 9 per cent. it was not recorded.

The average cell count was 198 cells to the cubic millimeter. There was no relation between the cell count and the age, sex or amount of spinal fluid. The cell count seemed to bear some slight relation to the white blood count for the average white count for all cases with cell counts over 350 cells, was 22,700, while the average white count for all cases with cell counts under 100 cells, was 17,000. The prevailing type of cell in the spinal fluid was the small mononuclear, ranging from 90 to 100 per cent. in 67 per cent. of the cases, and from 80 to 90 per cent. in 20 per cent. of the cases. A definite fibrin clot was present in 70 per cent. of the cases, absent in 8 per cent., and not mentioned in 22 per cent. The time of appearance of the clot varied from one to forty-eight hours.

Noguchi or butyric acid test for globulin: A positive test for globulin was obtained in 50 per cent. of the cases; in 7 per cent. it was negative, and was not recorded in 43 per cent. The lowest white blood count was 8,500, the highest, 48,000. The largest percentage (26.2) showed a leukocyte count between 10,000 and 15,000. There was no relation between the white blood count and the age or stage of the disease. Of the cases which showed a perfectly definite positive von Pirquet reaction, 66 per cent. had an average white count of 13,000. In twenty cases in which the eosinophils were practically absent, the patients died, bearing out the contention that the disappearance of the eosinophils from the circulating blood may be regarded as an unfavorable prognostic sign. Of the cases in which a von Pirquet test was done, 63 per cent. gave a positive reaction, 25 per cent. a negative reaction, and 2 per cent. are recorded as suggestive. There was a definite history of a direct exposure to tuberculosis in 25 per cent. of the cases, no known exposure in 73 per cent., and not recorded in 2 per cent. Of the patients directly exposed, 46 per cent. had had no previous illness, 23 per cent. had had measles, 15 per cent. had had pneumonia and 15 per cent. had had chickenpox. In 30 per cent. of the cases there were sufficient signs in the lungs to show that they were involved in the tuberculous process. In 70 per cent. the lungs were negative. In two cases d'Espine's sign was recorded as present. In no case was there any record of any palpable mesenteric lymph nodes. There was a slight general lymph nodular enlargement in many of the cases but it was not constant. A slight cough was present in 30 per cent. of the cases, absent in 57 per cent. and not recorded in 13 per cent. In over 30 per cent. of the cases the patellar reflexes were equal and active; in 21 per cent. they were absent; in 5 per cent. they were equal and sluggish; in 6 per cent. they were irregular; in 6 per cent. they were not mentioned; in 32 per cent. they were equal and normal.

There was a positive Babinski sign in 21 per cent. of the cases, negative in 55 per cent. and not mentioned in 24 per cent. The Oppenheim sign was obtained in 50 per cent. of the cases in which it was tried. Ankle clonus was almost never present as an admitting symptom, though it was rarely reported as being positive. The Gordon sign was not mentioned in any of the admitting examinations, but in the last six cases of the series it was present late in the disease. Abdominal and epigastric reflexes were positive in 14 per cent., negative in 17 per cent. and not mentioned in 69 per cent. Brudzinski's neck sign was positive in 40 per cent. of the cases, negative in 35 per cent., and not mentioned in 25 per cent. Brudzinski's contralateral sign was positive in 8 cases, negative in 11 and not mentioned in 86 cases. The Kernig sign was present in 27 per cent. of the cases, negative in 71 per cent. and not mentioned in 2 per cent. Thirty-nine per cent. of the series had had convulsions before entrance. Forty-five per cent. of the patients were unconscious on admittance. In practically every history drowsiness, apathy, dulness mentally, languor, irritability and sleepiness were mentioned. In over 85 per cent. vomiting was recorded as an initial symptom. In 10 per cent. there was no vomiting. Pain was a comparatively frequent symptom. In no case was there any recovery or remission from the disease.

10. **Congenital Intestinal Obstruction.**—The condition present in Rowland's case was a complete twist of the mesentery of the small intestine with complete obstruction approximately at the middle of the small intestine.

Arkansas Medical Society Journal, Little Rock

April, XI, No. 11, pp. 255-278

11 Case of Typhoid Intestinal Perforation; Operation with Recovery. E. F. Ellis, Fayetteville.
12 Arteriosclerosis and Its Results. H. T. Smith, McGehee.

Boston Medical and Surgical Journal

April 29, CLXXII, No. 17, pp. 613-656

13 Dispensaries; Growing Factor in Curative and Preventive Medicine. S. S. Goldwater, New York.
14 Care of Prospective Mothers. A. B. Emmons, 2d, Boston.
15 *Perforation of Stomach and Intestine by Foreign Bodies that Have Been Swallowed. F. S. Watson, Boston.
16 Varieties of Gold Sol Test (Lange) in Several Loci of Cerebrospinal Fluid System; Study of Twenty-Eight Autopsied Cases. H. C. Solomon and E. S. Welles, Boston.
17 Leprosy; With Especial Reference to Pulse and Temperature. (To be continued.) J. A. Honeij, Boston.

15. **Perforation of Stomach and Intestine.**—The perforating bodies in Watson's series of six cases were as follows: 1. A wooden toothpick. 2. A needle such as is used in sewing canvas. 3. A fish bone. 4. A bristle. 5. A flat, thin bit of bone with sharp edges. 6. A body of unknown nature, having the shape of a bit of lead pencil and about 1½ inches in length. The sites of the perforations were located in three of the cases. They were: In the upper part of the jejunum, in the small intestine near the ileocecal valve, in the transverse colon midway in its course. In two of the remaining three they were presumably high up in the intestinal tract or in the stomach, and in one of them in the small intestine near the ileocecal valve. In all but one of the cases the pathologic conditions discovered were those that are seen in circumscribed peritoneal infection and inflammation. In three of them intra-abdominal abscesses had been formed. In one of these the abscess had approached the surface of the abdomen, and would doubtless have been spontaneously evacuated there had not the operation been done.

In the second example of intra-abdominal abscess, that in which the jejunum was perforated, the conditions were of a more acute and severe grade of local peritoneal infection. The perforation in the bowel was large enough to admit the

tip of the little finger, and fecal extravasation was taking place from it into the cavity of the abscess. The process was but five days old in this instance. In the two cases in which the perforations were in the small intestine near the ileocecal valve, the areas around the sites of the perforations were well walled off from the peritoneal cavity by adhesive processes. In the transverse colon perforation there was a tumor about the size of the palm of the hand, projecting above the surface of the abdomen somewhat, at the level of the umbilicus and extending downward toward the upper margin of the symphysis pubis in less conspicuous form.

This tumor represented an enormously thickened portion of the left rectus abdominis muscle which at its thickest part measured 2 inches in depth. Immediately beneath this was a mass formed by the thickened omentum which was intimately attached to the parietal peritoneum overlying it, and which extended upward and downward. Beneath and below this mass was a second one, the lower border of which reached the level of the brim of the pelvis and extended toward the spine posteriorly. This mass was an intra-abdominal abscess containing about 12 ounces of pus and the foreign body. The three parts were welded into one mass which gave the impression of a large intra-abdominal solid tumor. The perforation was not seen at the time of the operation, but was revealed by the necropsy, at which it was found to be in the transverse colon. Fecal extravasation had been prevented by the firm glueing down, above and around it, of the omentum. In the bristle case the condition was seen in the form of a tumor on the external surface of the left upper quadrant of the abdomen, having the size of a closed fist and composed of chronic inflammatory tissue. The base was intimately united with the left rectus abdominis muscle.

Bulletin of Johns Hopkins Hospital, Baltimore

April, XXVI, No. 290, pp. 93-124

18 *Kidney Cancer Associated with Kidney Stone. J. R. Coryell, Rochester, Minn.
19 *Experimental Study of Lavage in Acute Phenol Poisoning. D. I. Macht, Baltimore.
20 Beginnings of Medicine in Middle West. O. Juettner, Cincinnati.
21 *Case of Acnitis with Study of Point of Origin of Pathologic Process. L. W. Ketron, Baltimore.

18. **Kidney Cancer Associated with Renal Stone.**—The macroscopic and microscopic findings in kidneys, the seat of both stone and cancer are recorded by Coryell. In the Mayo Clinic, since April 5, 1905, there have been removed 140 kidneys containing stones, and of these, 9, or about 6.5 per cent., also contained cancer. During the same period, 6 nephrectomies were done for cancer of the kidney, one of which was metastatic. The proportion, therefore, is 9 cancers of the kidneys associated with stones to 5 cancers without stones, or 64 + per cent. for the former and 35 + per cent. for the latter. This is about the same as in gastric cancer developing on a gastric ulcer and of other cancers developing at the site of chronic irritation. Tuberculosis was found in only one of the 140 kidneys containing stones. Amyloid degeneration was found in four cases. Polycystic kidney was found in one case. Irritation is regarded by Coryell as being a strong etiologic factor in the development of renal cancer.

In all specimens studied, the kidney in some portion showed an inflammatory reaction. The destruction of the renal substance varied in degree and was brought about by interstitial or parenchymatous changes or both; and suppuration was of frequent occurrence. After having seen the gradual changes from normal tissue to inflammatory, from inflammatory to hyperplastic, and from hyperplastic to neoplastic, it appears probable to Coryell that the irritation brought on by the stones was the direct cause of the cancer. In all the cases of renal cancer associated with renal stone, a large, light, fat-containing cell was found, sometimes singly, sometimes arranged in groups and sometimes in definite columns. It has its origin in the tubules of the kidney.

19. **Study of Lavage in Phenol Poisoning.**—The efficiency of lavage in phenol poisoning Macht found depends on the quantity of poison taken, on the time after poisoning that the lavage is begun, and on the solution used for washing the stomach. A strong solution of sodium sulphate appears to be the most useful for the purpose; next in efficiency comes plain water. The influence of alcohol in phenol poisoning depends on the time of its administration. An animal that is previously intoxicated with alcohol can withstand better the effects of phenol. On the other hand, alcohol administered to an animal after poisoning with phenol will aggravate the symptoms and hasten death. The use of alcohol in phenol poisoning is therefore strongly discouraged by Macht.

21. **Case of Acnitis.**—Although the results in obtaining positive bacteriologic evidence of tuberculosis in the individual lesions were unfruitful, other evidence, namely, the tuberculous character of the nodules and the fact that the patient gave a positive tuberculin test, as well as showing signs of an old tuberculosis of the lungs, Ketron believes is very suggestive that the disease is a form of tuberculosis.

The condition seemed to have reached its height at the time of his first visit. Several small nodules were marked, but no definite increase in size was noticed. The patient was observed four weeks without treatment. He was then given an erythema Roentgen-ray dose on one side of the face and sulphur ointment on the other. The side treated with Roentgen ray showed, in two weeks a definite decrease in the size of the nodules. The portion of the face previously treated with sulphur ointment was now Roentgen rayed, and after the slight erythema had subsided, he was given the sulphur ointment for the entire face. After an absence of about two months, a very decided improvement was noticed. About two thirds of the lesions had entirely disappeared, leaving, in some cases, especially on the hairy portion of the face, small irregular, rather deep, scars. On the temples and forehead the scars were more shallow, velvety and slightly pigmented. At the present time, ten months since the patient was first seen, the disease has in general subsided, but a few small freshly developed lesions are to be seen on the cheeks and eyelids.

Colorado Medicine, Denver

April, XII, No. 4, pp. 101-134

22 Disease of Small Blood Vessels as Studied with Ophthalmoscope. E. Jackson, Denver.
23 Nasal Treatment of Dysmenorrhea. L. B. Lockard, Denver.
24 Modern Pseudomedical Cults. Chiropractic. C. Powell, Denver.
25 Abdominal Roentgen Ray Before Operation for Chronic Appendicitis. C. Epler, Pueblo.
26 Paraoperative Pathologic Diagnosis. C. F. Hegner, Denver.
27 Apparatus for Artificial Pneumothorax. A. W. Stahl, Denver.

Florida Medical Association Journal, Jacksonville

April, I, No. 10, pp. 289-320

28 Bone Transplantation. W. C. Payne, Pensacola.
29 Aseptic Nursing. L. J. Harris, Jacksonville.
30 Spinal Epilepsy; Report of Case. W. P. Spratling, Welaka.
31 Hepato-Intestinal Toxemia. J. H. Bickerstaff, Pensacola.

Georgia Medical Association Journal, Augusta

April, IV, No. 12, pp. 338-362

32 Syphilis. M. L. Boyd, Atlanta.
33 Cholera Infantum. S. A. V. Christiphine, Attapulgus.
34 Pros and Cons of Duodenal Alimentation. G. M. Niles, Atlanta.
35 Case of Large Inguinal Aneurysm Cured by Transperitoneal Ligation of External Iliac. E. R. Corson, Savannah.

Indiana State Medical Association Journal, Fort Wayne

April, VIII, No. 4, pp. 163-224

36 Treatment of General Peritonitis. D. N. Eisendrath, Chicago.
37 Management of Feeding Cases in Infancy. J. H. Taylor, Indianapolis.
38 *Diagnosis and Treatment of Simple Glaucoma. A. E. Bulson, Jr., Fort Wayne.

38. Abstracted in THE JOURNAL, Oct. 31, 1914, p. 1602.

Journal of Cutaneous Diseases, New York

April, XXXIII, No. 4, pp. 249-342

39 *Case of Generalized Congenital Keratoderma. F. S. Burns, Boston.
40 Alopecia of Hypothyreosis. D. W. Montgomery, San Francisco.
41 *Lupus Erythematosus Diffusus Unfortunately Treated with Tuberculin. A. Ravogli, Cincinnati.

42 Bullous Dermatitis Caused by Colon Bacillus; Vaccine Therapy. A. Potter, Brooklyn.
43 Paronychia. H. Morrow and A. W. Lee, San Francisco.
44 Purpura Annularis Telangiectodes. G. M. MacKee, New York.
45 Dermatitis of Pellagra. T. Frazer, Asheville, N. C.

39 and 41. Abstracted in THE JOURNAL, June 20, 1914, pp. 1988 and 1989.

Journal-Lancet, Minneapolis

April 15, XXXV, No. 8, pp. 193-221

46 Treatment of Diabetes. J. S. Gilfillan, St. Paul.
47 Common Errors in Gall-Tract Surgery. C. E. Ruth, Des Moines, Ia.
48 Plea for More Careful Case History and Examination of Cases. B. A. Bobb, Mitchell, S. Dak.

Journal of Sociologic Medicine, Easton, Pa.

April, XVI, No. 2, pp. 65-132

49 Need of Far East for Surgical and Medical Aid. O. Reed, New York.
50 Medical Education in China. R. T. Shields, Nanking, China.
51 Women's Medical Education in India. E. M. Brown, Lodiana, North India.
52 Work of Medical Missionary Association of China. E. M. Merrins, Shanghai, China.
53 Medical College for Canton, China's Tropical Port. Paak-Tong Lau, Philadelphia.
54 Medical Mission Work in Siam. L. C. Bulkley, Tap Tieng, China.
55 Medical Inspection of Industries—National, State, Municipal or Private. R. L. Wilbur, San Francisco.
56 Medical Supervision in Dangerous Trades. G. M. Price, New York.
57 Prevention of Industrial Accidents and Sickness by Systematic Inspection of Plant and Employees. H. W. Jordan, Syracuse, N. Y.

Lancet-Clinic, Cincinnati

April 24, CXIII, No. 17, pp. 452-480

58 Sympathetic Syndrome (Undescribed) of Sphenopalatine or Nasal Ganglion Neurosis, Together with Consideration of Previously Described Symptoms and Treatment. G. Sluder, St. Louis.
59 Epithelioma of Lip Cured by Single Roentgen Ray Treatment. S. Lange, Cincinnati.
60 Neuroses and Psychoses Related to Syphilis. D. I. Wolfstein, Cincinnati.
61 Influence of Heredity on Life Insurance Risks. W. F. Milroy, Omaha, Neb.
62 Intestinal Intoxication; Headaches and Epilepsy. W. K. McCoy, Gum Springs, Va.

Laryngoscope, St. Louis

March, XXIV, No. 3, pp. 129-192

63 Case of Suppurative Labyrinthitis: Meningismus: Irritation of Gasserian Ganglion. C. E. Ide, Los Angeles.
64 Improved Glatzel Mirror. G. H. Cocks, New York.
65 Lipoma of Maxillary Antrum. M. A. Goldstein, St. Louis.
66 Prolapse of Ventricle of Larynx. G. B. New, Rochester, Minn.
67 Isolation and Cultivation of Tubercle Bacillus from Discharging Ear in Cases of Chronic Purulent Otitis Media. G. H. Cocks and J. G. Dwyer, New York.
68 Roentgenographic Diagnosis in Otosclerosis. J. C. Beck, Chicago.
69 Angioneurotic Edema of Esophagus. H. Arrowsmith, Brooklyn.
70 Case of Hypophyseal Growth Operated Through Nose and Sphenoid. O. J. Stein, Chicago.
71 Cases of Atypical Sinus Thrombosis. S. J. Kopetzky, New York.

Maine Medical Association Journal, Portland

April, V, No. 9, pp. 323-362

72 Visceral Ptosis. R. F. Chase, Portland.
73 Intrinsic Value of Tobacco. C. M. Pillsbury, Saco.

New Mexico Medical Journal, Las Cruces

April, XIV, No. 1, pp. 1-29

74 Two Cases of Eye Involvement Caused by Focal Infection of Teeth. H. H. Stark, El Paso, Tex.
75 Head Injuries. J. W. Elder, Albuquerque.
76 Human Waste and Children of Needy. C. E. Lukens, Albuquerque.
77 Plea for Preservation and Restoration of Perineum. W. Howe, E. Las Vegas.

Northwest Medicine, Seattle, Wash.

April, VII, No. 4, pp. 103-136

78 Cardiospasm; Report of Case. O. F. Lamson, Seattle.
79 Some Modern Conceptions of Heart Disease. E. H. Smith, Ogden, Utah.
80 Prodromal Symptoms of Cholelithiasis. R. H. Fowler, Brooklyn.
81 When to Drain and When to Remove Gall Bladder. A. C. Smith, Portland, Ore.
82 Constitutional Factor in Surgery. C. P. Noble, Boise, Ida.
83 Insanity from Standpoint of General Practitioner. W. J. Howells, Spokane.
84 Clean Milk in Small Town. R. W. Ashley, Salt Lake City.
85 Study of Pilocarpin. R. J. Smith, Bancroft, Ida.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

March, XX, No. 3, pp. 115-193

86 Acute Appendicitis — End Results of One Hundred Consecutive Cases Operated On. G. P. LaRoque, Richmond.
87 Biologic Classification of Pneumococci and Serum Treatment of Lobar Pneumonia. F. M. Hanes, Richmond.
88 Study of Joint-Bodies from Within Present Inarticulations Otherwise Apparently Normal. A. P. Heineck, Chicago.
89 Lobar Pneumonia and Mesenteric Tuberculosis. M. P. Rucker, Richmond.

April, No. 4, pp. 195-252

90 Tabes Dorsalis Simulating Acute Abdominal Disease. J. M. Hutcheson, Richmond.
91 Statistical Study in Serology. R. S. Preston, Richmond.
92 Eiweissmilch in Enterocolitis. C. C. Haskell, Richmond.
93 Purpura Pneumatica. J. M. Tompkins, Richmond.

South Carolina Medical Association Journal, Anderson

April, XI, No. 4, pp. 103-136

94 Syphilitic Multiple Sclerosis — Diagnosed Clinically in Spite of Negative Laboratory Tests. T. A. Williams, Washington, D. C.
95 Relation of Patient to Physician and Physician to Patient. R. M. Reid, Gastonia, N. C.

Southern Medical Journal, Mobile

April, VIII, No. 4, pp. 259-338

96 Work of Council on Pharmacy and Chemistry: Its Effect on Medical Progress. G. H. Simmons, Chicago.
97 Heart in Common Types of Liver Diseases. A. G. Brown, Richmond, Va.
98 Some Reasons Why Our Southern Pediatrists Should Organize. C. A. Rhodes, Atlanta, Ga.
99 Symptomatology, Etiology, Pathology and Treatment of Pellagra. (To be concluded.) I. C. Johnson, Atlanta, Ga.
100 Duties and Status of Health Officer. M. M. Carrick, Dallas, Tex.
101 Acute Surgical Abdomen. F. W. McRae, Atlanta, Ga.
102 Technic of Intestinal Suturing. J. S. Horsley, Richmond, Va.
103 Importance of Sigmoid Adhesion. H. A. Royster, Raleigh, N. C.
104 Choice of Operation in Intestinal Obstruction. J. Graham, Durham, N. C.
105 Railway Sanitation. C. H. Vaught, Richmond, Ky.
106 Fractures: How Best To Get Union. S. Harnsberger, Catlett, Va.
107 *Some Recent Surgery of Cranial Nerves for Relief of Headache and Other Neuroses. H. H. Martin, Savannah, Ga.

107. Abstracted in THE JOURNAL, Dec. 12, 1914, p. 2158.

Wisconsin Medical Journal, Milwaukee

April, XIII, No. 11, pp. 421-462

108 General Principles Involved in Treatment of Fractures. C. H. Lemon, Milwaukee.
109 Fractures of Skull. C. A. Evans, Milwaukee.
110 Morphin and Cocain Addiction. H. W. Powers, Wauwatosa.
111 Intrameningeal Treatment of Syphilis of Nervous System. L. M. Warfield, Milwaukee.
112 Sinusitis. J. A. L. Bradfield, La Crosse.
113 Nasal Accessory Sinus Infection in Relation to General Disease. W. E. Grove, Milwaukee.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

April, XII, No. 136, pp. 97-128

1 *Oculocardiac Reflex. E. B. Gunson.
2 *Case of Cerebellar Abscess in Child, Not Arising from Ear Trouble. H. T. Ashby.
3 Case of Liver Abscess in 5 Week Old Infant. C. V. Turner.
4 Retrospect of Otology, 1914. M. Yearsley.

1. **Oculocardiac Reflex.**—According to Gunson the oculocardiac reflex is a reflex change in the rate of the heart, associated in some cases with a change in rhythm, following ocular compression. The path of the reflex is considered to be along the fifth cranial nerve, the medulla and the vagus or sympathetic. The reflex affords a simple means, under certain conditions of acting on the nervous mechanism of the heart in such a way as to produce all the changes in rate, rhythm and conduction which follow vagus pressure in the neck. Under other conditions results analogous to those induced by stimulation of the sympathetic are obtained. The reflex is positive when slowing of the pulse occurs and negative

when either no slowing or actual quickening results. Persons exhibiting the former state are described as vagotonics, those exhibiting the latter as sympathicotonics.

The reflex is positive in normal persons. It is positive in about 92 per cent. of children convalescent from diphtheria and scarlet fever. In about 8 per cent. the reflex is negative; these children are of a naturally nervous disposition. In some of the patients the reflex was negative during pyrexia. In cases of so-called "cardiac paralysis" the reflex was negative and remained so till death, in fatal cases. In cases which recovered the reflex became positive when the heart returned to the normal state. In cases of diphtheria and scarlet fever in which the reflex was positive the following results were obtained: (*a*) Slowing of the whole pulse, with stoppage of the heart in some cases for as long as four seconds. (*b*) Production of premature contractions in cases in which they were previously absent and an increase in the incidence of the premature contractions when they were previously present. (*c*) Reduction of the *a* minus *c* interval. (*d*) Production of *c* plus *a* beats, due in some cases possibly to escape of the ventricle, in other cases presumably to the inception of atrioventricular rhythm. (*e*) (In diphtheria patients only). Complete dissociation of auricles ventricles.

The claim that the oculocardiac reflex is of diagnostic value in differentiating cardiac failure due to myocardial lesions from that due to nervous lesions presumes the independence of the muscular and nervous functions of the heart and cannot be upheld. The oculocardiac reflex is of slight diagnostic value in confirming the nervous origin of the great majority of the post febrile bradycardias and in differentiating them from cases of auriculoventricular heart block. As sinus arrhythmia, however, is present in nearly all cases of bradycardia due to the former cause, such confirmation is rarely necessary.

2. **Cerebellar Abscess in Child Not Arising from Ear Trouble.**—The interest of Ashby's case lies in the diagnosis, which was most difficult in the absence of any ear discharge or disease. The diagnosis of tuberculous meningitis became more doubtful as the case progressed, and it became more like a cerebral tumor of some kind, but the presence of an abscess, which might possibly have been drained, was never thought of. The brain was of normal consistence, the ventricles were not distended, and there was a large abscess in the substance of the right cerebellum. The ears were normal, as was the rest of the body. The pus from the abscess was creamy and contained pneumococci. The question is, what was the origin of the abscess, for there was no ear disease, which is by far the commonest cause of cerebral abscess. The patients had a transient bronchitis on admission, and in the absence of any other cause this may have been the starting point. There had been a slight vaginal discharge, but the pus from this was not examined, and it is not likely that the discharge contained pneumococci. There were but few localizing signs during life, except the continual tendency to lie on the right side, and the almost right-sided convulsion. There was no nystagmus or tendency to fall to one side more than the other.

British Journal of Tuberculosis, London

April, IX, No. 2, pp. 51-110

5 Antituberculosis Campaign in Bombay, India. J. A. Turner.
6 Tuberculosis Problem in New York. J. A. Miller and G. J. Drolet.
7 Surgical Tuberculosis and Its Treatment by Heliotherapy. G. Hinsdale.
8 Tuberculosis and War. R. M. Leslie.
9 Misuse of Sanatorium Benefit. A. E. Carver.

British Medical Journal, London

April 17, I, No. 2833, pp. 665-704

10 Wound Infections; New Methods in Treatment. (To be continued.) A. E. Wright.
11 *Blood Pressure Estimation in Children. G. S. Melvin and J. R. Murray.
12 *Idioglossia; Report of Case. W. B. Drummond.
13 Two Cases of Lupus in Children. H. W. Barber.
14 Effects of Military Training on Lead Workers. F. Shufflebotham.
15 Typhus Fever. E. C. Hort.
16 Epidemic Cerebrospinal Fever. (Pleomorphism of Responsible Micro-Organism.) E. A. Shaw.
17 Acute Inversion of Uterus Following Labor on Two Occasions. N. S. Carruthers.

11. **Blood Pressure Estimation in Children.**—The auditory method according to Melvin and Murray is simple and determinate. By experiment and investigation it has been established as accurate. In many cases as those in adults; in fact, the clearest impression of the sounds yet obtained was obtained in the case of a child. The apparatus required for the application of the method in children consists of: 1. A mercury manometer (preferably an ordinary one). The slight advantage in portability of the compressed air type of manometer is depreciated by the necessity in its use for frequent calibration to ensure accuracy. 2. An armlet of suitable size, much narrower than the ordinary one for adults; an armlet 8 cm. broad does very well; for example, that supplied with the Pachon oscillometer. 3. Some form of filler, either of the "ball" type or of the "screw compressor" type. The latter, greatly superior for finer adjustments of pressure, suffers in having a fixed capacity. This difficulty can, however, be easily overcome. 4. An Oliver tambour with strap attachment, which secures it in a fixed position on the arm. Such an arrangement leaves the observer with both hands free—an important point. 5. Rubber tubing and connections.

Estimated by the auditory method, the average systolic pressure is seen to be 108.1, the average diastolic pressure to be 72.4, and the average pulse pressure 35.7 mm. mercury. The cardiac output is small in children, and in association with this the capillary system to be filled, is very limited as compared with the adult. Yet the systolic pressure is only slightly lower in children than in adults. The average diastolic level, on the other hand, is decidedly higher in children than in adults; this is the main cause of the considerably smaller pulse pressure in children—35.7 mm.—as compared with 46 mm. in adults. By the tactile method the average systolic pressure was 105.7 in children as compared with 108.7 in adults, while the range was 125-84 in the former and 132-92 in the latter. By the auditory method the range of systolic pressure was 130-90 in children and 135-92 in adults, while the range of diastolic pressure was 90-50 in the former as compared with 82-50 in the latter. In children the relation of pulse pressure to systolic pressure was 1:3 and to diastolic pressure 1:2, while in adults this relation was 1:2.7 and 1:1.6, respectively.

12. **Idioglossia.**—Idioglossia is a defective condition of speech of such a nature that the affected person is unintelligible, except perhaps to his own relations; yet what he speaks is really English, very grossly mispronounced. In Drummond's case rapid improvement took place under treatment. The symptoms in this case support the view that in idioglossia the peculiar speech is neither a persistence of baby language nor a new tongue invented by the patient. The child's speech really represents a very defective attempt to speak his own mother tongue. The defect does not arise from any impediment in the articulatory mechanism; nor from want of intelligence; nor from lack of visual memory; nor from inattention, though these may be noticed in some cases; nor is it due to deafness in the ordinary sense. But the symptoms are explicable on the theory that there is defective audition in the sense of some affection or imperfect development of the auditory word center. Idioglossia would thus come under the same class of cases as congenital word blindness.

The defect in the audition center does not interfere with the child's hearing nor with his capacity to understand what he hears, but it does incapacitate him from reproducing by ear, as normal children do, the sounds transmitted to his ear. It may even incapacitate him from learning how to reproduce such sounds by ear, just as the word blind is incapacitated from recognizing, or even in some cases from learning to recognize, word symbols by sight. But in order to teach a child with idioglossia to speak it is not necessary

to provide him with a complete audition center. There are several ways of speaking, and if the child with a defective audition center cannot learn to speak correctly by ear he may learn to speak by the intelligent utilization of visual or kinesthetic memories.

Dublin Journal of Medical Science

April, III, No. 520, pp. 241-320

18 Toxic Possibilities of Tobacco Smoke. G. H. Culverwell.
19 Roentgen Ray Treatment of Ringworm. E. J. Watson.
20 Treatment by Suggestion. C. P. Smyly.
21 Account of Irish Medical Periodicals. T. P. C. Kirkpatrick.

Journal of Laryngology, Rhinology and Otology, London

April, XXX, No. 4, pp. 145-176

22 Aspergillosis of Nasal Accessory Sinuses. H. Tilley.
23 Reports for Year 1914 from Ear and Throat Department of Royal Infirmary, Edinburgh. T. R. Rodger.

Lancet, London

April 17, I, No. 4781, pp. 787-842

24 Wound Infections; New Methods in Treatment. (To be continued.) A. E. Wright.
25 Penetrating Power of Roentgen Rays from Coolidge Tube. S. Russ.
26 *New Theories and Investigations Concerning Pellagra. A. Cencelli.
27 Differential Diagnosis Between Acute Abdominal and Certain Acute Intrathoracic Diseases. C. MacKenzie.
28 *Observations on Three Hundred and Seventy-Six Cases of Frost-Bite. C. Miller.
29 Frost-Bite. F. McG. Loughnane.

26. **New Theories Concerning Pellagra.**—The cause of the disease according to Cencelli appears to be a chronic poisoning brought about by the silica in colloidal solution in waters of determined composition; in other words, pellagra seems attributable to mineral colloids. The clay is the first cause of the evil, for the rain water present, either in the superficial or the deep strata of the ground, reacts on the clay which is a silicate of alumina, producing a hydrolysis that brings about the formation of silicic acid and hydrate of alumina. Both these compounds, from the condition under which the hydrolysis takes place, can pass into the water in the colloidal form. Since, as is well known, there exists an incompatibility between colloidal silica and colloidal alumina, there only remains in the water the amount of silica in excess of that required for the precipitation of the alumina. The colloidal silica-alumina compound, which must on no account be confused with silicate of alumina, goes to form the deposit. Part of it, however, remains in suspension as a very finely divided colloid, and is the cause of the persistent opalescence often observed in the water drunk by sufferers from pellagra. The poisoning by silica would thus resolve itself into a mineral acidosis on which would depend all the anatomic, pathologic and metabolic alterations which are met with in pellagra patients. Hence arose the other conclusion regarding pellagra, namely, that it is a disease due to the enforced retention of mineral salts followed by a liberation of acids which is excessive in comparison with the amount regarded as normal in the case of any given organism.

It having been proved that the question is one of mineral acidosis, Scala and Alessandrini believed that the toxic effects could be modified by the injection of an alkaline substance such as trisodium citrate. They also considered that the pellagra inducing water could be corrected and freed from injurious substances by placing small pieces of lime in the pipes and reservoirs. The curative treatment was only applied to animals in which the disease had been induced, but also to human beings who had been suffering from pellagra for longer or shorter periods of time. The results were in the highest degree satisfactory; persons who had been ill for a long time improved and were cured in a relatively short space of time without any change having been made in their mode of life, surroundings, or diet.

28. **Frost-Bite.**—The chief objects of treatment. Miller says, were to relieve the pain and to secure sleep. Various drugs have been tried. But were found uncertain in their action, and the most severe cases were given a hypodermic injection of morphin. Many of these patients felt thoroughly ill from the effects of exhaustion and exposure and required good nursing, good food and plenty of sleep. They seem particularly open to attack by the organisms of influenza and enteric fever. Warmth was useful in a few cases only. If the feet are anesthetic warmth apparently does good, and again when the feet are nearly well. Bed socks, cotton-wool covers, or hot bottles will supply sufficient warmth. Radiant heat from electric lamps was tried with good results in a few cases.

Cold is necessary in the majority of cases. The usual plan was to leave the feet uncovered and guarded by a bed cradle. A sheet could be placed over the cradle to cut off draughts. The feet were more comfortable if raised on pillows, and by this means any edema would be made to disappear. Massage was beneficial in the majority of cases. At first it has to be very light, but later more vigorous massage with passive movements was tried. The massage can be dry or with some lubricant. Various oils were tried with equally good results, namely, eucalyptus oil, methyl salicylate oil and a mixture of castor oil, glycerin and atropin. In the cases of blisters and ulceration, dry dressing was employed, some powder such as boric acid or one of the bismuth compounds being used. The results have been good.

Practitioner, London

April, XCIV, No. 4, pp. 487-630

30 Testicular Tuberculosis. J. S. McArdle.
31 Uses of Paraffin in General Practice. E. Pritchard.
32 Non-Suppurative Forms of Middle-Ear Deafness. W. Stuart-Low.
33 Retrospect of Otology, 1914. M. Yearsley.
34 Some Principles of Roentgen Ray Localization. W. Cotton.
35 Artificial Pneumothorax. F. C. Coley.
36 Some Types of Paroxysmal Tachycardia, with Special Reference to that of Auricular Fibrillation. B. Parsons-Smith.
37 Hyperpiesis and Arteriosclerosis. A. Graham-Stewart.
38 *Value of Drugs as Blood Pressure Elevators. A. Watson.
39 Administration of "Nauheim" Treatment in England. L. T. Thorne.
40 Recent Work on Diseases of Heart. C. W. Chapman.
41 *Relationship of Pulmonary Tuberculosis in Childhood (Hilum Phthisis) to Phthisis of Adult Life, with Comparison of Their Symptoms and Signs. J. P. Cullen.
42 General Practitioner and New British Pharmacopeia. D. M. MacDonald.

38. **Value of Drugs as Blood Pressure Elevators.**—Experiments made by Watson on an adult male showed that atropin, camphor, cotarnin, digitoxin, ergotoxin and strychnin appear to be of no value as blood pressure elevators. Epinephrin appears to be a dangerous drug, which should always be used with caution and never as a general blood pressure elevator. Physostigmin is an effective blood pressure elevator, but, on account of the distressing nausea, vomiting and faintness it produces, its use in cases of hypotension does not seem advisable. Pituitary extract was found to have no pressor effect in his experiments. Watson has suggested that its effect in cases of marked hypotension may be different, but he considers it of doubtful value. Tyramin appears to be a safe and effective blood pressure elevator.

41. **Pulmonary Tuberculosis.**—Adult and infantile phthisis are regarded by Cullen as being one and the same disease, the difference in their symptoms and signs being explicable on anatomic peculiarities. The affection in childhood may remain limited to the lymphatic paths, and in this case the prognosis is good, provided the disease is recognized early and treated by cod liver oil and fresh air. Wrongly diagnosed, or diagnosed too late, the parenchyma of the lung is affected, and the case, perhaps comparatively in life, passes into the adult variety, with far gloomier prospects of recovery. In the adult type, the local symptoms, namely, cough, expectoration, hemoptysis are those for which the patient usually seeks advice. General symptoms make their appearance later on. Physical signs, owing to the situation of the lesion, are sufficiently well marked to enable an early diagnosis to be made by the usual methods of inspection, palpitation, percussion and auscultation.

In childhood, local symptoms are indefinite. There may be reflex cough and perhaps vomiting, attributed in some cases to irritation of the vagus. General symptoms are more marked. The patient is languid, anemic, perhaps suffers from night sweats, or slight evening pyrexia and growth and nutrition are interfered with. Physical signs, owing to the depth of the lesions from the surface, are by no means obvious; enlargement of the oval interspinous area of dulness, with prominent venules over the region of the first to the fifth dorsal spines, crepitations in the nipple region, and harsh or cogwheel sounds at the apices are the signs which suggest examination, which is usually by means of the Roentgen ray when the morbid appearance above mentioned may be disclosed. Pressure signs and symptoms occupy many pages in text-books; in practice, they may safely be disregarded.

Bulletin de l'Académie de Médecine, Paris

March 30, LXXIII, No. 13, pp. 385-416

43 *Habit of Swallowing Sputum as a Factor in Anal Fistula. P. Reynier.
44 Disturbances in Vision and Hearing Consecutive to Gunshot Wounds of the Head. E. Delorme.
45 Latent Injury of Arteries in Wounds of the Upper Arm. O. Laurent.
46 How and When to Extract the Bullet or Scrap of Shell. (Quand et comment faut-il extraire les projectiles de guerre?) L. Bérard and Wullyamoz.
47 *Tetanus; Sixty-One Cases. G. Nivière.
48 Cord and Weight Device for Universal Simple Mechanotherapy for the Wounded. J. Privat.

April 6, No. 14, pp. 417-439

49 *Meningococcus Arthritis. P. Sainton and J. Maille.
50 *Typhoidal States in Soldiers. (Etats typhoïdes pendant la campagne 1914-1915.) A. Sartory, L. Spillmann and P. Lasseur.
51 Requirement as to Visual Acuity in Recruits. (L'aptitude visuelle au service militaire.) E. Ginestous.

43. **Fistula Ani.**—Reynier's communication was summarized in the Paris Letter, May 1, p. 1515.

47. **Tetanus.**—None of the sixty-one men developing tetanus had received a preventive injection of antitetanus serum.

49. **Meningococcus Arthritis.**—The knee is the joint usually affected, according to Sainton, who has encountered 3 cases in the course of well-defined cerebrospinal meningitis and knows of 7 other cases in a total of 63 cases of the disease. The proportion was thus 15.8 per cent. of 63 cases. In addition to the above he reports 2 cases of arthritis in which the knee trouble was the first sign of the meningococcus infection to attract attention. In both there was first an infectious sore throat, then headache and insomnia and finally the characteristic arthritis with meningococci in the purulent puncture fluid. They were found also in the cerebrospinal fluid. Any arthritis in the course of an epidemic of meningitis should at once arouse suspicion. The meningococcus is capable thus of generating an actual acute infectious pseudorheumatism.

50. **Typhoid States.**—Sartory and his coworkers have examined bacteriologically 800 cases of apparent typhoid but the findings classified them in nine groups. Besides true typhoid and paratyphoid A and B cases, there were groups with paratyphoid plus true typhoid bacilli; or paratyphoid plus colon bacilli, or plus streptococci, or plus staphylococci, or plus a special diplococcus. The latter was found alone or with other germs in the blood in 15 per cent. of these typhoidal states.

Presse Médicale, Paris

April 8, XXIII, No. 15, pp. 113-120

52 *Adhesion of Heart to Lung or Chest Wall. (La symphyse cardio-thoracique extra-péricardique.) P. Delbet.
53 Internal Hemorrhage from Air Shock of Explosion of Shell. (Hémorragies internes produites par le choc vibratoire de l'explosif.) P. Ravaut.
54 Hysteria, Hysterotraumatism, and Simulation among the Soldiers. (Quelques troubles nerveux psychiques observés à l'occasion de la guerre.) G. Roussy.
55 Technic for Antityphoid Vaccination. P. Ameuille and Brulé.

52. **Adherent Pericardium.**—Delbet comments on the extreme movability of the heart in animals, especially in the dog. There is nothing to hinder its movements; in man the erect position has entailed a number of changes which tend to limit the movements of the heart and thus invite adhesion. When the pericardium has become adherent to the chest wall, resection of the supports of the wall over the spot renders the wall flexible so that it can yield with each tug of the heart. He describes a case of this kind in which the patient was immensely relieved by resection of the second, third and fourth costal cartilages and part of the corresponding ribs. When the heart has expelled its blood and sinks in, lung tissue is forced into the space thus left vacant. The moment the pressure at any point grows less, air and blood rush in to fill the vacant space. In order that this may proceed normally the lung tissue must be exceedingly elastic. The points subjected to much strain in this way finally lose their elasticity. The anterior margin of the lungs is emphysematous in nearly everybody after 45, and the heart thus becomes to a certain extent solid with the lung tissue or chest wall, the normal play of lung tissue between no longer occurring. After 50 the deeper breathing during exertion causes the adherent lung tissue to drag on the heart, thus causing panting and finally entailing dilatation of the heart. Even without adherence of the pericardium to the chest wall, the cardiothoracic solidarity may become such that there is an actual extrapericardial functional symphysis. Chondrectomy relieves in such cases and in emphysema, not because it relieves the lung, as Freund teaches, but because it relieves the right heart. Even without emphysema, Delbet adds, the extrapericardial functional symphysis from sclerosis of the anterior margin of the lung is relieved and may be clinically cured by chondrectomy on the right side.

Archiv für Verdauungs-Krankheiten, Berlin

April, XXI, No. 2, pp. 89-178

56 *Hour-Glass Stomach. (Klinisches und Kritisches über den Sanduhrmagen.) H. Strauss.
57 *Occult Hemorrhage with Gastric Ulcer and Cancer. (Zur Kenntnis der okkulten Blutungen bei Ulcus ventriculi und Magenkarzinom.) I. Boas.
58 Dilatation of Stomach from Constitutional Atony. (Klinischer Beitrag zur Frage der atonischen Stauungsinsuffizienz des Magens.) P. Cohnheim.
59 *Chemistry of the Stomach with Cholelithiasis. (Zur Frage des Magenchemismus bei Gallenblasenerkrankungen, Aetiologie und Therapie.) A. Ohly.

56. **Hour-Glass Stomach.**—Strauss discusses on the basis of eighteen cases of hour-glass stomach the spastic and the organic forms, the cancerous, and the hour-glass deformity with a boring ulcer. The only reliable way to distinguish between the spastic and the organic is by repeated examinations. Drug tests are unreliable. Even without organic stricture, local contracture over a long period may occur with or without irritation from an ulcer. Coexisting motor insufficiency tends to tip the scale in favor of the organic character of the stenosis. A tube shape or x shape also speaks more for an organic than a spastic origin; the spastic type is more or less of a B shape, such as we are accustomed to see with an hour-glass stomach consecutive to a simple or boring ulcer. An organic cause is suggested particularly by the combination of motor insufficiency and the pylorus and cardia being drawn closer together. This combination is generally the result of cicatricial retraction, but retraction of this kind can be augmented by a superposed spasm. Deforming relics of inflammatory processes may impede the evacuation of the stomach; an ulcer remote from the pylorus seldom interferes with this.

With cancer, the connecting canal is generally, but not always, longer and more central than in non-malignant disease. In his cases of cancerous hour-glass shape, free hydrochloric acid was found relatively often, although only in small amounts. In his five cases of penetrating ulcer, the hour-glass deformity was explainable by cicatricial retraction. In several instances these patients suffered from attacks of intense pain, like gastric crises or gallstone attacks, and he has witnessed similar crises in two cases of callous duodenal ulcer. He explains them as the result of food getting into a recess in the ulcer, an actual incarceration colic.

In some of his hour-glass cases the patients had never referred their disturbances to the stomach, but merely to the intestines. The food was sometimes retained in the upper sac alone; the question should always be debated in operating whether the opening had better be made in the upper o: lower sac or both, considering the functioning as well as the morphology of the stomach.

57. **Occult Hemorrhage from the Stomach.**—Boas urges the general practitioner to familiarize himself with the types of occult hemorrhage characteristic of ulcer and of malignant disease and also, with ulcer, as premonitory of more serious hemorrhage. With cancer, it is persistent and shows a constant gradual increase. With ulcer, it tends to decrease and, under appropriate treatment, disappears in from ten to fourteen days. When, after subsiding in this way, it returns later and shows a doggedly persisting and progressive character, the ulcer will be found to have assumed a malignant character. The intensity of the reaction for occult blood shows the proportion of blood present; the larger amounts testify more for cancer or warn of impending serious hemorrhage or are relics of such.

Boas' extensive experience with gastric ulcer has confirmed the frequency of ulceration in stomach or duodenum as the underlying cause of hyperacidity; also that manifest hemorrhage with ulcer is extremely rare while invisible hemorrhage is common. This renders it imperative, he declares, to examine the feces systematically for occult hemorrhage in all cases of pain in the stomach, whatever its character. In some cases suspicious of ulcer, with hyperacidity, not a trace of occult blood can be detected and yet the patients improve under a course of treatment for ulcer. Such experiences warn that persons with obstinate hyperacidity should be regarded as ulcer suspects, and tests for occult blood should be applied once in a while. An actually florid ulcer, he insists, without occult bleeding, is an impossibility. Under treatment the subjective pains subside first, then the sense of oppression and, last of all, by the end of ten to fourteen days, no further trace of invisible blood can be detected. This sequence occurs constantly under suitable treatment, not only with a brief but with a long history of ulcer trouble. Hence he has never had occasion for operative measures for uncomplicated chronic ulcer except in the rarest cases.

59. **The Chemistry of the Stomach in Cholelithiasis.**—Ohly expatiates on the importance of considering conditions in the stomach in every case of cholelithiasis. The secondary disturbances in gastric chemistry may take the form of hyperacidity—he summarizes 18 cases of this kind—or of deficient or lacking secretion, as he shows by the histories of 46 cases. In only 13 of his 87 cases were the chemical findings in the stomach normal.

Stomach or intestinal disturbances were frequent in the intervals between the gallstone colics; in most cases palpation showed that the liver was not normal. In the hyperacidity cases the gallstone trouble was generally more of an acute inflammatory character. Every colic is accompanied by gastric disturbances and these in time pass from phases of excessive to deficient secretion. In many cases the stomach and intestinal disturbances persisted for years before there was gallstone colic, or before an operation revealed the secondary changes characteristic of cholelithiasis. The stomach being the more sensitive organ, gives the warning signal of the cholelithiasis. One patient found that she increased in weight each time when gallstone trouble returned. As the acute inflammation in the gallbladder subsides, the secondary gastro-intestinal trouble should receive due attention. It is important to determine whether the stomach secretion is excessive, normal or deficient, and institute treatment accordingly. By curing the secondary gastro-intestinal disturbance, the gallstone affection is often coaxed into a latent phase.

Berliner klinische Wochenschrift

March 29, LII, No. 13, pp. 309-336

60 War and the Food Supply. (Krieg und Ernährung.) G. Rosenfeld.
61 Origin and Prevention of Valvular Defects in the Field. (Zur Entstehung und Verhütung von Herzklappenfehlern bei Soldaten.) A. Edel.
62 Further Research on the Protective Ferments. (Weitere Erfahrungen mit der Abderhalden'schen Fermentreaktion.) F. Ebeler und E. Löhnberg.
63 *Action of Synthetic Camphor. (Wirkung des künstlichen Camphers.) C. Lutz.
64 Legal Questions Interesting Physicians. (Aerztliche Rechtsfragen.) H. Lieske.

April 5, No. 14, pp. 337-364

65 Eczema. P. G. Unna.
66 *The Physiology of the Brain. (Die Hirnphysiologie im Dienste des Krieges.) M. Rothmann.
67 *Thymol plus Charcoal in Treatment of Typhoid Bacilli Carriers. (Versuch einer Behandlung der Typhusbacillenträger.) A. Géronne and W. Lenz.
68 Wounds of Peripheral Nerves in War. (Die Kriegsverletzungen der peripherischen Nerven.) M. Bernhardt. Commenced in No. 13.
69 Digestive Disturbances from War Bread, and Their Treatment. (Verdauungsbeschwerden nach dem Genuss von Kriegsbrot.) C. von Noorden.
70 Nature of Narcosis. J. Traube.

63. **Synthetic Camphor.**—The clinical course is given in detail of twenty cases in which synthetic camphor was given by subcutaneous injection. No by-effects were observed, and there seems to be no reason, Lütz says, why the synthetic cannot take the place of natural camphor.

66. **Physiology of the Brain and Wounds of the Head.**—Rothmann's experience confirms Mendel's recent statement that the bullet and shell wounds of the brain now being encountered sustain, like laboratory experiments, what has been learned in recent years from physiology and pathology with regard to cerebral localization of functions. A number of new facts have also been learned, among them the experience that crossed flaccid paralysis of the extremities, occurring immediately after a wound, is liable to retrogress more or less completely. The sequence of disturbances noted by Münk in his experiments on monkeys is also shown in many of the wounded, as, for instance, in one case paralysis of the left leg followed a wound of the right skull. Fourteen days later the right shoulder became paralyzed, and then in turn the elbow and the fingers. An operation showed the expected abscess at the anticipated point.

The localization in the occipital lobe of the center for vision was confirmed by complete blindness coming on the second, tenth or fourteenth day in three cases in which the occipital bone alone had been grazed by a bullet. This center for vision is thus particularly sensitive, but no permanent injury seemed to be left as vision gradually returned. In one case complete motor aphasia and agraphia developed from a bullet in the third left frontal convolution, and both subsided completely in three days after the bullet had been extracted. Systematic reeducation of the function materially promoted restitution.

67. **Combination of Thymol and Charcoal for Typhoid Bacilli Carriers.**—Géronne rapidly banished by this means the typhoid bacilli from the stools of three men who seemed to be developing into chronic carriers. This method is capable of wide application in the giving of drugs to prolong their action with the minimum of irritation. He selected thymol as an efficient disinfectant, and gave small amounts of animal charcoal with it, hoping that the charcoal would absorb the thymol and thus retard its absorption by the tissues and permit it to act over a much longer stretch of the bowel and for a longer period. His theoretic premises were all confirmed; the thymol was absorbed much more gradually and slowly, as could be seen by the urine. Tests with other, more soluble drugs were less successful unless much larger amounts of charcoal were used. He is now testing this principle of charcoal as a vehicle with narcotics and other drugs, and is convinced that it has a future. To the bacilli carriers he gave 1 gm. of charcoal and 1 gm. of thymol three times a day, the charcoal half an hour before the three meals and two 0.5 gm. thymol capsules half an hour after each meal. This was kept up for from eight to fourteen days and no appreciable by-effects were observed. Tests on a dozen normal persons showed marked reduction of the flora in the stools under these doses of thymol alone or of charcoal alone, but this reduction was far greater when they were given together as above, suggesting the possibility of effectual sterilization of the bowels by this means.

Deutsche medizinische Wochenschrift, Berlin

April 1, XLI, No. 14, pp. 393-424

71 Modification of Typhoid Vaccine. (Eine Modifikation des Typhusimpfstoffes.) K. Kisskalt.
72 Typhoid Vaccination Entails Leukopeny and the Eosinophils Disappear. (Ueber Leukopenie und Aneosinophilie nach Typhusschutzimpfungen.) F. Schneider.
73 *Adsorption by Animal Charcoal. (Tierkohle.) R. Kraus and B. Barbara.
74 *Experimental Research on Action of Benzol. W. Neumann.
75 *Tartar Emetic in Treatment of Internal Leishmaniosis. G. di Cristina and G. Caronia.
76 Antilouse Measures. (Bekämpfung der Läuseplage.) K. Kisskalt, A. Friedmann and T. Axenfeld.
77 Diagnosis of Complicated Bullet and Shell Wounds. (Komplizierte Schussverletzungen.) E. Glass.
78 Improvised Orthopedic Appliances. (Unser orthopädisches Institut.) W. Katz.
79 Sterilization of Surface Water in the Field. (Beschaffung von keimfreiem Oberflächenwasser im Felde mittels des Chlordesinfektionsverfahrens.) Haupt.
80 Digestibility of the War Bread. J. Schwalbe and Others. See Berlin Letter, p. 1259.

April 8, No. 15, pp. 425-456

81 Improved Technic for Culture Medium. (Bereitung des Dieudonné-Agars mit Hilfe eines Blutalkali-Trockenpulvers.) O. Lentz. (Brauchbarkeit des Kongorotnährbodens zur bakteriologischen Typhusdiagnose.) K. E. F. Schmitz.
82 *Percutaneous Rectopexy Best Treatment for Prolapse of Rectum in Children. (Die Ekehornsche Operation des Mastdarmvorfalls bei Kindern.) R. Tölken.
83 Congenital Syphilis in Infants without Wassermann Reaction. M. Soldin and F. Lesser.
84 Skull Wounds in War. (Schädelschüsse.) R. Eschweiler and R. Cords.
85 Improvised Orthopedic Appliances. (Kriegsgemässe Orthopädie der Extremitäten.) L. Levy.
86 Work of the Red Cross, especially in East Prussia. (Organisation und Leistungen des "Roten Kreuzes" im jetzigen Kriege.) Solbrig.

73. **Detoxicating Action of Charcoal.**—Kraus and Barbara have found that filterable viruses are taken up by charcoal so rapidly that they lose their toxic properties for the tissues. This also occurs with kaolin, and might be utilized to arrest infection in wounds. It is possible that tetanus might be warded off by applying charcoal to infected wounds, the adsorption of the toxins by the charcoal preventing their getting into the tissues.

74. **Experimental Research on Benzol.**—Neumann failed in his efforts to find some drug or substance that would neutralize or annul the toxic action of benzol. His experiments and research all demonstrated the peculiarly variable action and effect of benzol, indicating wide differences in individual tolerance. This renders it extremely dangerous as it is unquestionably a powerful poison for the leukocytes, and it is impossible to estimate beforehand the extent of its toxic action.

75. **Tartar Emetic in Internal Leishmaniosis.**—Di Cristina and Caronia have applied Vianna's tartar emetic method in ten cases of internal leishmaniosis, and report gratifying results. They gave it intravenously, injecting from 0.02 to 0.1 gm. of a 1 per cent. solution of the antimony and potassium tartrate on alternate days. Two of the patients were moribund. Two others are children and they are already much improved; five others are completely cured, and one died from acute nephritis after showing transient improvement. The dosage in this case had been less than in any of the others, so that, if the medication is in any way responsible for the kidney disease, the organ must have been exceptionally susceptible. The total amount ranged from 0.06 to 0.84 gm., given in the course of ten to forty days. The children were between 1 and 6 years old, and the affection was severe and of two to eight months' standing.

82. **Rectopexy for Prolapse of the Rectum in Children.**—Tölken lauds Ekehorn's method as the simplest and least dangerous while the effect is excellent and permanent. He advises it for all cases in which conservative measures do not speedily correct the tendency to prolapse, illustrating his remarks with nine typical cases. This brings to fourteen the number on record in which this technic was applied. There has been no recurrence in any case nor any disturbances for which the operation was responsible. Under general anesthesia the prolapse is reduced and the rectum pushed up with the left index finger inside, while a needle is introduced into the rectum from the rear, near the sacrum, guiding it with the left index finger and drawing it out through the anus. It is then threaded with a stout silk thread which is drawn out above by the needle. The needle is then introduced again on the other side of the sacrum and threaded with the other end of the silk thread which is drawn out in turn. The silk is then pulled tight and the ends tied over the sacrum. The children can eat at once and get up and after two weeks the suture is taken out. The entire bowel is thus suspended from the sacrum, and there is no incision or wound except the two points where the needle was introduced. Tölken uses a wire instead of silk. There was never any reaction in his cases. (The method was described in The Journal, June 12 and July 3, 1909, pp. 1966 and 84.)

Jahrbuch für Kinderheilkunde, Berlin

April, XXXI, No. 4, pp. 277-370

87 Diphtheric Paralysis and Diphtheria Antitoxin. H. Kleinschmidt.
88 Antianaphylaxis to Measles. (Masernantianaphylaxie.) G. Bessau, J. Schwenke and J. Pringsheim.
89 The Energy of the Pulse in Children in Comparison with Adults. (Dynamische Pulsuntersuchungen bei Kindern im Vergleich mit Erwachsenen.) A. Hotz.
90 Proteolytic Ferments in Diphtheria. (Ueber die Fermente, die die Eiweisse des Diphtherieserums spalten.) A. Reisz and Z. Barabas.
91 Aleukemia with Blood Picture of Aplastic Type. R. Lawatschek.
92 The So-Called Sclerodermia of the New Born. E. Mayerhofer.
93 *Postdiphtheric Stenosis of the Larynx. A. Rohn.

93. **Postdiphtheric Stenosis of the Larynx.**—Rohn classifies by ages the mortality after intubation in diphtheria in the Prague children's hospital since 1900. It was very much lower in children over 3. In ten cases the children were left with chronic stenosis but six were cured by continued intubation over from two to four months. One child was 22 months old when the stenosis developed following measles. No diphtheria bacilli were found in this case. During the first year the tube could be dispensed with only for 136 days and the third year 260 days. Then the child choked to death while eating without the tube. Two other children required tracheotomy and are still wearing their cannula.

Medizinische Klinik, Berlin

April 4, XI, No. 14, pp. 381-412

94 *Mild Dysenteric Polyneuritis in Twenty Soldiers. H. Schlesinger.
95 Treatment of Sepsis. L. Fuhrmann.
96 *Exophthalmic Goiter. (Basedowsche Krankheit.) C. Hart.
97 Abscess in the Brain after Blocking the Trigeminal Nerve to Permit Removal of Teeth. (Gehirnabscess nach Zahnerkrankung. Misserfolg der Leitungsanästhesie?) F. Bannes.
98 Thermal Baths with Weak Heart. (Technik der Thermalbadekuren beim funktionsuntüchtigen Herzen.) J. Havas.
99 Foot-and-Mouth Disease in Frankfurt Model Dairy. (Die Epidemie der Maul- und Klauenseuche in der Frankfurter Milchkuranstalt, 1915.) E. Cahen-Brach.
100 Tenth Anniversary of Discovery of the Spirochaeta Pallida. R. Kaufmann.

94. **Polyneuritis Following Dysentery.**—Schlesinger has been unable to find in the literature any account of polyneuritis as a complication of dysentery, but he has had twenty typical cases in his charge, and has heard of similar cases in neighboring hospitals. This dysenteric polyneuritis is evidently of toxic origin as dysentery bacilli have generally disappeared from the stools before it develops. The pains were often of a sciatic type, or in the calves or joints; the head was never affected. Paresthesias were constant in fingers or toes, and the trunk nerves in the limbs were tender, but there was no actual paralysis although the patients got about only with difficulty and by using a cane. All disturbances gradually subsided in the course of a few weeks. Treatment was with rest, light sweating procedures and salicylates.

96. **Exophthalmic Goiter.**—Hart marshals data to sustain his classification of cases of Basedow's disease into three groups, those of thyroid origin, those of thymus origin and those in which thyroid and thymus are both etiologically involved. In the purely thyroid cases, the cause of disturbance in structure and functioning of the thyroid is still

a mystery, but in this group the thymus is not at fault. In the second, the thymus cases, there is always a constitutional inferiority. The thymus is abnormally large, the heart and aorta system abnormally small, with hypoplasia also of the chromaffine system and genital apparatus, while the height is extreme in proportion to the weight. The mentally and morally backward (psychic infantilism) also present an abnormally large thymus, and this is also a strikingly frequent finding in youthful suicides. The thymico-lymphatic state also prepares the soil for exophthalmic goiter.

The thymus is at the height of its functioning in early life, and the constitutional inferiority becomes evident then likewise. This suggests that in the third type of exophthalmic goiter, that in which both thyroid and thymus are involved, the thymus is the primarily abnormal organ. The practical conclusion of Hart's article is that it is possible to determine by the signs of constitutional inferiority the cases in which the thymus is involved, and thus point the way to effectual operative treatment. The greater the predominance of the thymus, the severer the clinical picture, as a rule. The action of the abnormal thymus is most intensive the more pronounced the hypoplastic character of the structure of the body. The earlier the exophthalmic goiter develops, the larger the share of the constitutional factors in its pathogenesis. The thymus type is therefore more common in the young. It is the increasing practice to resect the thymus first, and this seems to banish forever the formerly so dreaded "thymus deaths" in operations for exophthalmic goiter.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

April, XLI, No. 4, pp. 293-370

101 *Korsakoff's Psychosis in Pregnant Women. F. Plahl.
102 *Anaerobic Bacteria and Puerperal Infection. P. Hüssy.
103 *The Protective Ferments in Obstetrics and Gynecology. (Neue Probleme des parenteralen Eiweissabbaues in ihrer Beziehung zur Geburtshülfe und Gynäkologie.) T. Petri.
104 The Stem Pessary. (Die Utero-Cervikalkanüle.) F. Ahlfeld.

101. **Korsakoff's Psychosis in Pregnant Women.**—Plahl cites various writers who have reported paralysis or neuritis occurring in pregnant women in connection with uncontrollable vomiting. Hösslin noted this combination in 34 per cent. of forty-six cases of serious pregnancy paralysis, and Alexandroff and a few others have reported a few cases in which the Korsakoff syndrome was evident. This was pronounced in the case here described in detail, polyneuritis developing after a period of uncontrollable vomiting at the fifth month of a pregnancy, the symptoms of Korsakoff's psychosis soon following, with spontaneous expulsion of a fetus that had evidently been dead about two weeks. Plahl is inclined to regard the case as a polyneuritis of alimentary origin, that is, developing in a neuropathic woman under the influence of inanition from the weeks of vomiting. Several months elapsed before the Korsakoff syndrome was entirely thrown off, and even a year afterward there were still slight traces of it. She had no remembrance of the months of her illness.

102. **Anaerobic Germs and Puerperal Fever.**—Hüssy investigated repeatedly the lochia and the blood for the presence of anaerobes in forty-nine cases of puerperal fever, including nineteen with a fatal outcome. Pure cultures of anaerobes were sometimes obtained from the blood but never from the lochia. This was the case in one of fulminating tetanus following a criminal abortion which, he says, is the sixty-seventh case of the kind on record. Anaerobes were found responsible for the fatal bacteremia almost as often as hemolytic streptococci. But this, he adds, must not be construed as evidence that all anaerobes are particularly dangerous; this is true of only a small number, including obligate anaerobic streptococci and staphylococci and Fränkel's gas bacillus. One case of fatal puerperal fever for which obligate anaerobic streptococci were found responsible has converted Hüssy—as clinching conclusions from previous experiences—to the theory of self-infection of parturients. This patient had had rapid and normal delivery, without having been subjected to examination except once with gloves. These anaerobic germs could not have been proliferating on the outside but must have been already in the depths of the vagina. Fortunately the ordinary anaerobic gas-producing bacteria permit an extremely favorable prognosis. Mixed infection with these anaerobes and aerobes is particularly benign.

103. **Serodiagnosis in Obstetrics and Gynecology.**—Petri presents the history of serodiagnosis with an account of much personal research, his review closing near the end of 1913. He states that his own experiments on rabbits first showed that protective ferments are generated after intravenous injection of serum from the same species or even the animal's own serum, and that this can be demonstrated as early as within fifteen minutes and lasts for more than forty-eight hours but not up to the fifth day.

Monatsschrift für Kinderheilkunde, Berlin

XIII, No. 7, pp. 297-358

105 The Flora in Infants' Intestines. (Biologische Untersuchungen über die Darmflora des Säuglings.) K. Blühdorn.

Münchener medizinische Wochenschrift, Munich

March 30, LXII, No. 13, pp. 425-464

106 Treatment and Prophylaxis of Typhoid in the Field. R. D. v. Tabora.
107 Vaccine Therapy of Typhoid. (Zur intravenösen Bakteriotherapie des Typhus abdominalis.) M. Rhein. (Wirkung von tryptischen Verdauungsprodukten aus Typhusbazillen.) M. Matthes and A. Rannenberg.
108 Reaction to Vaccination against Typhoid. (Längerdauernde Krankheitserscheinungen in zeitlichem Zusammenhang mit der Typhusschutzimpfung.) E. Toenniessen. (Typhusimmunisierung.) W. Weichardt. (Begleiterscheinungen der Typhusschutzimpfung auf Grund von 1340 Impfungen.) E. Schlesinger.
109 Rapid Technic for Detecting Typhoid Bacilli. (Methode des raschen Typhusbazillennachweises.) W. Löwenfeld.
110 Staining the Fluid Facilitates Agglutination Reaction. (Farbmethode der Gruber-Widal-Reaktion.) A. Perlmann.
111 Abdominal Wounds in War. (Zur Prognose und Behandlung der Bauchschüsse im Kriege.) G. Perthes. Concluded in No. 14.
112 Operations in Field Hospital. (Das Operieren im Felde.) G. Hosemann.
113 Nature and Treatment of Gas Phlegmons. W. Armknecht.
114 Devices for Extension after Fractures in War. (Zur Behandlung der Frakturen im Kriege mit der Extensionslatte.) F. Weissgerber.
115 Treatment of Retention of Urine with Wounds of Spinal Cord in War. (Harnverhaltung bei Rückenmarksschüssen.) B. Goldberg.
116 Extermination of Lice. (Zur Vertilgung der Läuse.) O. v. Herff.
117 Nitrobenzol Poisoning in Attempts to Exterminate Lice; Six Simultaneous Cases. Schultz.

Therapeutische Monatshefte, Berlin

April, XXIX, No. 4, pp. 193-256

118 *Operative versus Conservative Treatment of Exophthalmic Goiter. (Erfolge der operativen Behandlung des Morbus Basedowii.) H. Schröder.
119 *Drugs that Check or Promote Secretion in Stomach, Pancreas and Liver. (Pharmakodynamische Erregung und Hemmung der Sekretionen im Magen-Darmkanal.) R. Chiari.
120 *History of Intravenous Injection of Drugs. (Zur Entwicklung der intravenösen Injektionstherapie.) E. Ebstein.

118. **Exophthalmic Goiter.**—Schröder agrees with those who believe that exophthalmic goiter may be of nervous origin in some cases, although the thyroid is usually to be incriminated. He styles the neurogenous, the genuine or primary exophthalmic goiter; and the thyrogenous, the secondary or symptomatic Basedow's disease. An operation on the thyroid in this latter type might banish the symptomatic disturbances but would not act on the primary cause. It is possible that we may be able to distinguish these types by the Abderhalden method of serodiagnosis. It is a significant fact, he continues, that Basedow's disease cannot be induced by implantation or ingestion of Basedow goiter substance, while normal thyroid substance incorporated in the same way is liable to induce in man typical Basedow symptoms or even the well-defined disease, as likewise incorporation of iodin. Many persons can take iodin in large doses without disturbance, while others display Basedow symptoms on small doses. The same has been observed in animals—all testifying to some predisposing element and, in particular, a peculiarly instable nervous system. The thyroid secretion acts as a multiplier of this predisposing element, and this sets up a vicious circle. By getting rid

of this multiplying action of the thyroid secretion, the predisposing element drops back into a practically negligible factor.

The final conclusion of Schröder's analysis of the experiences to date with operative and nonoperative treatment of exophthalmic goiter, are, word for word, the same as the conclusions of most clinicians with regard to the treatment of cancer. That is to say, while fine results may be obtained with these or those nonoperative measures, yet operative treatment deserves the preference as the most certain and reliable measure at our command. The successes with it, in comparison with conservative measures, are as 85 to 10, in Klose's recent compilation.

119. **Drugs that Influence Secretion in Stomach, Pancreas and Biliary System.**—Chiari reviews a number of works that have been published on this subject in the last seven years. Among other points emphasized is the stimulating action on stomach secretion of cholin, a normal element in the tissues. Also the acute stimulating influence of opium and morphin in the fasting stomach. Among the measures that inhibit gastric secretion is restriction of the table salt intake. Enriquez was thus able to keep hyperchlorhydria under control by limiting the salt to 4 or 5 gm. a day. Klocman found that sodium salicylate reduced by 50 per cent. the secretion in the stomach. Quinin, ferrous lactate and digitalis have a similar but less pronounced effect, while antipyrin and arsenic stimulate gastric secretion. In regard to the pancreas, Chiari comments on the fact that the physical character of the food, whether coarse or finely divided, has a marked influence on pancreas secretion. Emotions also influence it, anger inhibiting it. Sodium salicylate is cited as one of the most effectual means to promote secretion of bile; Winogradow states that it is increased in volume from 20 to 80 per cent. and in concentration by 19 to 30 per cent. and that this increase keeps up for several days.

120. **Intravenous Medication.**—Ebstein gives an illustration from a work that dates from 1667, which portrays an intravenous infusion at the bend of the elbow between two tourniquets. The fluid is infused through a large quill with a bladder tied on the end. As early as 1669 experiments were being made with intravenous infusion of opium, and in 1665 syphilis was given intravenous treatment with good results according to Ettmüller's thesis (Leipzig, 1668). He also mentions intravenous treatment of epilepsy, apoplexy, hysteria, hypochondria and scabies. The by-effects mentioned even then are the same as noticed now. Ebstein cites other authorities which show that the intravenous technic was applied in the seventeenth and eighteenth centuries, but then was "discovered" anew by A. Landerer. In the clinic, May 27, 1881, he made an intravenous injection, and in October infused salt solution in a case of acute anemia, the first "saline" in man.

Therapie der Gegenwart, Berlin

April, LVI, No. 4, pp. 121-160

121 *Mechanotherapy for the Wounded. (Physikalische Heilmethoden im Reservelazarett bei der Behandlung der Kriegsverletzungen.) F. Kirchberg.

122 *Transient Loss of Pupil Reflex in a Diabetic. (Vorübergehende Pupillenstarre bei Diabetes.) L. Dünner.

123 Tetanus. (Klinische Beobachtungen über Tetanus und praktische Gesichtspunkte bei seiner Behandlung.) Rosznowski.

121. **Mechanotherapy for the Wounded.** — Kirchberg describes ways and means to fit up a base hospital with the least expense so it can give adequate treatment to the wounded to ward off or cure contracture and ankylosis. He remarks that the scant attention that has been paid to physicotherapy in the medical curriculum and in military medical circles in the past may soon be bitterly avenged unless prompt measures are taken to remedy this. The results in the base hospital in his charge have surpassed all anticipations. Function has been restored to absolutely stiff knees and other joints, to ankylosed jaws, etc. The secret is the skilful combination of hot air, massage, passive and active exercise, the suction bell, and stretching devices. Three or four hours a day up to eight hours may be necessary, keeping this up for one to three months. Chewing on rubber aided in mobilizing the jaws, with intensive massage from inside the mouth. In two cases in which a bullet had lodged deep in the thigh, he had the men contract certain muscles systematically, and thinks that this aided in the change of the position of the bullet until it could be readily extracted. Perseverance on the part of all and the collaboration of a surgeon and a neurologist are indispensable to secure the best results.

122. **Transient Loss of the Pupil Reflex in a Diabetic.**—The behavior of the pupils is usually relied on to distinguish between tabes and other affections with similar symptoms, but Dünner here reports a case in which a woman of 67, diabetic for nine years, reacting negatively to all tests for syphilis, lost the knee-jerk and a week later lost the pupil reflex, and there was also slight ataxia. All these symptoms subsided within a few days. He thinks they were merely a toxic phenomenon just as Nonne has observed transient rigidity of the pupils in a drunkard.

Wiener klinische Wochenschrift, Vienna

April 1, XXVIII, No. 13, pp. 337-360

124 Serotherapy and Prophylaxis Advocated for Bacillary Dysentery. R. Kraus.

125 Varnish as Aid in Extension and to Fasten Retention Catheters. (Extensionsbehandlung mit Mastisol.) E. Suchanek. (Zur Nachbehandlung der Amputationsstümpfe.) M. Seemann. (Befestigung des Verweilkatheters.) P. Blatt.

126 *Necropsy Work in the Field. (Die Feldprosektur.) E. Miloslavich and A. Weichselbaum.

127 The Trained Nurse. (Krankenpflegewesen in den Kulturstaaten.) M. Setz.

128 Taking Prisoners of War. (Die Kriegsgefangennahme vom hygienischen Standpunkt.) E. Wiener.

April 8, No. 14, pp. 361-386

129 Epidemiology and Prophylaxis of Cholera. C. Sternberg and A. Weisskopf.

130 Prophylaxis of Typhus. (Zur Verhütung der Infektion mit Flecktyphus.) J. Frisch.

131 Pathology and Treatment of Tetanus. B. Beer.

132 Antilouse Measures. (Zur Frage der Läusevertilgung.) L. Zupnik, S. Frankel and A. R. v. Lobaczewski.

126. **The Field Prosector.**—The advantages are extolled of having an expert in pathologic anatomy attached to each army corps. In warding off epidemics, in detecting mixed infections, in collecting material for the study of war surgery and sanitary statistics, the organization of a field necropsy service would be of the greatest importance. It would place the work of the physician in war on the same high scientific plane as his work in peace.

Zentralblatt für Chirurgie, Leipzig

April 3, XLII, No. 14, pp. 217-240

133 *Advantages of Silver Foil in Surgery. (Verwendung von Silberplattchen in der Chirurgie.) E. Lexer.

April 10, No. 15, pp. 241-256

134 *Treatment of Gunshot Abdominal Wounds with Compressive Dressings. (Zur Frage der Behandlung der Bauchschüsse mittels komprimierenden Verbandes.) G. Kelling.

133. **Silver Foil in Surgery.**—Lexer relates that Halsted's use of silver foil was what inspired Credé to introduce in 1896 the silver salts as antiseptics. Lexer learned the use of silver foil from Cushing and applies it a little differently from Halsted's technic as published in The Journal, April 12, 1913, p. 1119. Lexer uses but one layer of the silver foil, and discards the protecting paper. He is enthusiastic over the simplicity and the advantages of the method, and commends it in high terms for general adoption by surgeons. The scars after plastic operations on the face are almost imperceptible when done with fine suture material and covered with the silver foil. He has never seen epidermis flaps adhere and heal so quickly and perfectly as under the silver foil. It offers special advantages also for sutures before applying a plaster cast, and permits more economical use of dressings. Halsted's words of praise for the method he regards as entirely justified.

134. **Treatment of Gunshot Wounds of the Abdomen by Compression.**—Kelling has had no clinical experience with this method of treating abdominal wounds as the stage

during which it would be applicable is long past when the wounded reach the hospital in his city, Dresden. But he has been studying it on animals, and the effect observed has convinced him that there is much to be gained by applying a compressing bandage at once after a bullet or shell wound of the abdomen. It checks the escape of intestine content and prevents its spreading, it promotes the development of adhesions, and tends to localize the peritonitis. It is especially important while the wounded man is being carried to the rear, and consequently it should be applied early, and done in such a way that compression is really exerted. The ideal, he remarks, would be to have an inflatable bag for the bandage, with an opening through it which could be fitted over the point where the bullet entered. By this means the inflated bag would exert an even pressure on the abdomen throughout, except at the injured spot. The pressure elsewhere would tend to expel the secretions at this point. Röper advises soldiers to refrain from eating just before a battle. Kelling adds that when one is sure the large intestine has not been injured, the escape of stomach content can be combatted by inflating the large intestine. When peritonitis has developed, with paralysis of the intestinal vessels and heart weakness, the blood drains into the splanchnic area and there is not enough left elsewhere to keep up the circulation. He suggests that this might be combatted by exerting counter pressure, opening up the abdomen at several points, in the epigastrium and inguinal region, and applying positive atmospheric pressure in a Sauerbruch cabinet, the head outside, or vice versa.

Zentralblatt für Gynäkologie, Leipzig

April 3, XXXIX, No. 14, pp. 217-240

135 *Radium and Roentgen Treatment of Cancer of the Uterus. H. Füth and F. Ebeler.

April 10, No. 15, pp. 241-256

136 *Puerperal Osteomalacia. R. E. Liesegang.

135. **Radiotherapy of Cancer.**—Füth analyzes his experiences with 56 cases of uterine cancer given radium or Roentgen treatment including 22 absolutely inoperable cases and 11 in which treatment was given merely to ward off recurrence. In 53 per cent. of 45 women given radium treatment, no general disturbance was noted from the measure, but the others showed more or less physical depression and in 9 cases there was a considerable loss of weight. The effect on the bladder and rectum is the most disagreeable by-action of this radium treatment; 10 women had severe tenesmus in bladder or rectum, including 2 who had imperious desires to urinate every five or ten minutes. The patients complained very much of these bladder and rectum disturbances and were materially depressed by them. They proved transient as a rule, but kept up for eight days in 2 cases. In 2 cases the prolonged radiotherapy entailed a stricture in the rectum. In 2 other cases pyometra developed and in another case a secondary abscess in the thigh. On the whole, he concludes, radiotherapy constitutes great progress in treatment of cancer. We can advise it with confidence although without too much optimism. All the 10 operable cancers have retrogressed entirely or nearly so. Six of the inoperable patients are clinically cured, but not much benefit was realized in the 10 cases of inoperable recurrence.

136. **Puerperal Osteomalacia.**—Liesegang presents evidence which apparently refutes Levy's arguments against the acidosis theory of the bone disturbances in osteomalacia.

Zentralblatt für innere Medizin, Leipzig

April 10, XXXVI, No. 15, pp. 225-244

137 Hygiene at the Front. (Die Hygiene im Stellungskriege.) E. Hesse.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 28, XXXVI, No. 25, pp. 385-400

138 *Roentgen Treatment of Epithelioma of the Lips; Three Cases. E. Cavaglieri.

April 1, No. 26, pp. 401-416

139 *Urochomogen Reaction of Weisz Unreliable in Surgical Tuberculosis. A. Bruni.

138. **Roentgen Treatment.**—A complete cure was realized in one of the three cases of cancer of the lip described. In the others the cancer was of unusually rapid and malignant growth and it had to be excised. Benefit from the rays was apparent even in these cases, encouraging Roentgen treatment to ward off recurrence.

139. **The Urochromogen Reaction in the Urine.**—A study of the reaction of Weisz was published in THE JOURNAL, June 13, 1914, p. 1886. Bruni does not agree with that writer as to the value of the test in tuberculous affections. He applied it to 137 patients, and obtained a positive response in only 13 of 32 with some tuberculous process in bones, lymph-glands, pleura or peritoneum. It was positive in 9 of 47 patients with tumors, in 18 of 30 with febrile acute processes, and in 3 of 28 with fracture, lithiasis or other non-febrile trouble.

Policlinico, Rome

April 4, XXII, No. 14, pp. 449-484

140 *Ten Years of Radiotherapy. C. Esdra.

141 *Factors that Impede Experimental Tumor Transplantation. (Sui fattori che determinano l'attecchimento dei trapianti sperimentali dei tumori tra animali di specie diversa.) G. Donzello.

142 *The Physician's Unconscious Psychotherapy. (Dell'atteggiamento mentale del medico in presenza del suo malato.) S. Steiani.

140. **Radiotherapy.**—Esdra has applied one or more forms of radiant energy in 933 cases of various affections, including 302 of non-malignant tumors and 58 of cancer. The details of treatment and the results are given in tabulated form. With epitheliomas benefit was realized in all but 4 of the 31 cases in which radium was applied, and in 5 of the 11 cases under Roentgen treatment. The benefit was only transient; recurrence at the spot or at a distance followed, and the recurrences proved refractory to the rays. Epitheliomas of the lip, mouth and palate seemed to improve rapidly under radium but recurrence soon followed. The condition grew worse again so rapidly that it seemed as if the radium treatment had actually whipped it up into a fulminating course, speedily fatal. This was particularly manifest in a case of a small epithelioma of the palate of thirteen years' duration. It subsided under the radium but metastasis developed almost at once in a gland near by, and soon proved fatal. Only in one case of alveolar epithelioma the recurrences yielded likewise to the radium treatment, but metastasis in the pleura followed a traumatism.

With sarcoma, on the other hand, in 5 of the 8 cases a permanent cure seems to have been realized under the radium, and in 1 of the 7 cases given Roentgen treatment. In the 8 cases of leukemia, roentgenotherapy had a palliative influence in 7 and none at all in the other case. Epitheliomas not actively malignant yielded to radium or Roentgen rays in a most gratifying manner. The effect of the two seems about the same except that radium sometimes proved effectual when the Roentgen rays had failed. Only 8 under radium and 5 under Roentgen treatment proved refractory of the 203 benign tumors; these few refractory tumors were in the fingers, tongue, bladder, or at the anus. Especially fine results were obtained in 33 cases of epithelioma of the eyelid, only 1 case proving refractory. In the others even the cosmetic outcome was excellent. Radium was used in all but 2 of these eyelid cases. In 58 cases of warts, all disappeared promptly under radium treatment, even old chronic warts that had spread under the nails. In one case of leukoplasia, one patch subsided completely while a second patch proved absolutely rebellious. The effect realized with roentgenotherapy in chronic and subacute eczema surpassed that of any other treatment known to date. Complete cure under radium is reported in the 12 trachoma cases, 6 tuberculous ulcerations, and 7 of cheloid acne. Most of the work reported was done at the public institution for physicotherapy at Rome of which Esdra is director.

141. **Experimental Tumor Grafts.**—Donzello found evidences of protective ferments in the blood serum in the animals that proved refractory to tumor grafts. Histolytic processes thus readily explain why the graft fails to take root and grow.

Semana Medica, Buenos Aires

February 25, XXII, No. 8, pp. 245-276

143 *Inherited Supernumerary Fingers. (Caso de polidactilia hereditaria.) C. Lanza.
144 Impotency as Cause for Annulling a Marriage. (La impotencia considerada desde el punto de vista medico-legal.) C. S. Belgrano and P. B. Aquino.
145 Color Test for Citric Acid. (Nueva reaccion cromatica del acido citrico.) J. A. Sanchez.
146 *Turpentine in Local Treatment of Puerperal Endometritis. A. Gutierrez.
147 Improved Technic for Roentgen Work. (Fotoradiolocalizador.) C. Heuser.

March 4, No. 9, pp. 277-308

148 *Syphilitic Disturbance in the Bladder. (Sifilis de la vejiga.) J. N. Posadas.
149 Gastric Secretion. (Produccion, extraccion y analisis del jugo gastrico.) P. J. Pando.
150 Streptobacillus of Pellagra. (La pelagra en Bessarabia—Rusia.) G. Tizzoni (Bologna, Italy).
151 *Epileptiform Seizures from Camphor Poisoning; Five Cases. (Ataques epileptoides producidos por el uso del bromuro de alcanfor.) A. Austregesillo.

March 11, No. 10, pp. 309-340

152 *Syphilitic Disturbance in Liver and Spleen. (Sifilis del higado y del bazo.) J. J. Viton and A. Gorostarzu.
153 Improved Technic for Roentgen Work. (Nueva careta protectora de la cara contra los rayos X.) C. Heuser.
154 Spontaneous Generation. (La generacion espontanea, su realidad y lo que ella implica.) H. Charlton-Bastian (London).

143. **Inherited Supernumerary Fingers.**—Five cases are described and illustrated by Lanza, all encountered within two months in children born at the maternity. One of the mothers had a scar at the inner base of each thumb where a supernumerary finger had been excised, and her two children each had an extra finger like a supernumerary phalanx on the little finger, with a well-formed nail. One of the other children had a supernumerary finger on each hand. He resected the extra fingers in each case.

146. **Turpentine Treatment of Puerperal Endometritis.**—Gutierrez calls attention to some recent communications extolling the efficacy of turpentine in these conditions. A wick of gauze impregnated with turpentine is introduced into the uterus. It induces such profuse exudation that any retained scraps are washed out. The uterus is rinsed out beforehand with simple boiled water. Gutierrez adds that the effect of the turpentine in the uterus is like that of a fixation abscess in the skin, marked phagocytosis following and the bactericidal power of the blood serum being much augmented.

148. **Syphilitic Changes in the Bladder.**—Posadas has recently encountered a second case of syphilitic ulceration in the bladder. A robust bachelor of 41 for about a year had noticed a sensation of heat in the bladder region when micturition was delayed but the urine was normal until one day the urine was red with blood, growing redder toward the end of the emission. At the next micturition the urine was normal and there was no further hematuria and no pain at any time. The cystoscope revealed an ulcer, the walls of the bladder apparently normal everywhere else. With ulceration from any cause but syphilis there is always more or less cystitis. The Wassermann was positive and the ulceration promptly retrogressed under mercurial treatment, although the man persistently denied venereal disease and no other signs of such were apparent.

151. **Epileptiform Seizures from Camphor.**—In four of the five cases described, the camphor had been prescribed for gonorrheal urethritis but the patients took the doses too often. Two of them were medical men. The fifth patient was the wife of a physician; the camphor had been prescribed to relieve a painful cystitis, 1.5 gm. in the course of two hours. The convulsion occurred the following morning. There was only one seizure in each case, but all described it as resembling a typical epileptic seizure in every respect. The camphor had been given associated with hexamethylenamin in each case. Austregesillo warns that 0.6 gm. is the maximum dose for twenty-four hours, and 0.2 gm. the maximum single dose. If this is borne well, the dose might be increased a little, but never to the dosage given in the textbooks.

152. **Syphilitic Changes in Liver and Spleen.**—In Viton's four cases, two simulated Laennec's cirrhosis of the liver; the third simulated a subacute rheumatism plus the liver trouble, and in the fourth, anemia dominated the clinical picture. The irregular shape and large size of the liver, the exudate simulating ascites, and the positive Wassermann pointed to a gummatous affection of the liver. Under mercurial treatment all symptoms retrogressed except that the liver is still somewhat larger than normal. Syphilitic liver troubles display a great tendency to recur, and treatment should be cautious and the liver should be spared all extra work for a time. He advises absolute bed rest, not getting up for any purpose; nothing but water by the mouth for a day and a half, but plenty of water, up to 3 liters. Then skimmed milk in small amounts at frequent intervals until the end of the week, with enemas if the patient is constipated. In all four cases the spleen was much enlarged as well as the liver, and all had ascites; one patient required tapping every week at first. In one woman of 41, extreme anemia, fever and much expectoration suggested tuberculosis, but no tubercle bacilli were found. The skin reaction was negative, as also the Wassermann, but the large size of liver and spleen and the irregular pupils suggested syphilis, and complete recovery followed mercurial treatment.

Hospitalstidende, Copenhagen

April 7, LVIII, No. 14, pp. 329-350

155 *Renal Diabetes. (Glykosuria, Diabetes renalis.) C. Gram.

155. **Renal Diabetes.**—Gram describes what he thinks is the first case of renal diabetes that has been published in Denmark. It is analogous to the experimental diabetes induced by phlorizin, and has no graver significance, as the sugar content of the blood is within normal range. His patient is a medical student of 25 from Iceland, previously healthy and of a large family, all healthy except that one uncle had diabetes. There were no symptoms and no objective findings except the 1.3 up to 3 per cent. sugar in the urine. On an ordinary diet, the total sugar eliminated was 39.2 gm. but on an antidiabetic diet it dropped to 22 gm. No albumin or acetone was found in the urine at any time, but the strictest antidiabetic diet never cleared it of sugar. This elimination of sugar in the urine with normal sugar content in the blood should be called renal glycosuria, not renal diabetes. So far as known to date, this condition never runs into actual diabetes later. There seems to be some chronic anomaly in the kidneys, like the condition induced transiently by phlorizin. The only injury, apparently, is that the weight is not quite up to normal. It seems advisable to restrict the sugar in the diet, but otherwise no restrictions need be imposed, and this renal glycosuria need not be regarded as a special risk in life insurance. The young man's general condition has been excellent and he completed his medical course with zeal and pleasure.

Hygiea, Stockholm

LXXVII, No. 5, pp. 225-288

156 *The Vocal Organs in Schoolchildren. (Studier över röstorganet hos folkskolebarn.) K. Weinberg.

156. **Vocal Apparatus in Children.**—Weinberg in the course of medical inspection of the schools at Stockholm paid special attention to the vocal organ and the hearing. He here reports the details of this study of 50 boys and 50 girls from each of the eight classes of a public school. The ages ranged from 7 to 14. The work was undertaken to discover the causes of chronic hoarseness. None of the children had a vocal range of three octaves. The changes in the voice are tabulated from various standpoints under a piano keyboard, showing in particular the changes in the boys' voices at 12 and over, and the upward range of the girls' voices at 14. He found two types of mutation in boys, a stormy, catarrhal form of change of voice, and a dry form. Only 34.7 per cent. of the children were free from hoarseness in speaking and 40.3 per cent. in singing. All the 65.3 per cent. who were more or less hoarse were examined with the laryngoscope. In 127 boys and 89 girls chronic changes were found in the throat sufficient to explain the hoarseness, that is, in 27 per cent. of the total 800.

The Exposition Memorial Auditorium.

THE SAN FRANCISCO SESSION

AMERICAN MEDICAL ASSOCIATION, SIXTY-SIXTH ANNUAL SESSION, SAN FRANCISCO, CAL., JUNE 21-25, 1915

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The sixty-sixth annual session of the American Medical Association will be held at San Francisco, Cal., June 21-25, 1915.

The House of Delegates will convene at 10 a. m., Monday, June 21. In the House the representation of the various constituent associations for 1915 is as follows:

Alabama	3	New Hampshire	1
Arizona	1	New Jersey	3
Arkansas	2	New Mexico	1
California	3	New York	11
Colorado	2	North Carolina	2
Connecticut	2	North Dakota	1
Delaware	1	Ohio	6
District of Columbia	1	Oklahoma	2
Florida	1	Oregon	1
Georgia	3	Pennsylvania	9
Idaho	1	Rhode Island	1
Illinois	9	South Carolina	1
Indiana	4	South Dakota	1
Iowa	3	Tennessee	2
Kansas	2	Texas	5
Kentucky	4	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	3
Maryland	2	Washington	2
Massachusetts	5	West Virginia	1
Michigan	4	Wisconsin	3
Minnesota	2	Wyoming	1
Mississippi	2	Canal Zone	1
Missouri	5	Hawaii	1
Montana	1	Philippine Islands	1
Nebraska	2	Porto Rico	1
Nevada	1		

The fifteen scientific sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The general meeting, which constitutes the opening exercises of the Scientific Assembly of the Association, will be held at 10:30 a. m., Tuesday, June 22. The various sections of the Scientific Assembly will meet Tuesday at 2 p. m., and subsequently, according to their respective programs.

Wednesday, June 23, has been designated as "Health Conservation Day" and will be devoted to appropriate exercises.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 21, 22, 23 and 24, and from 9 to 10 a. m., on Friday, June 25.

VICTOR C. VAUGHAN, President.
ALEXANDER R. CRAIG, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of state societies are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members who have reported to THE JOURNAL in time to be included:

STATE DELEGATES

ALABAMA
H. T. Inge, Mobile.
W. H. Sanders, Montgomery.

ARKANSAS
Robert Caldwell, Little Rock.

CALIFORNIA
H. Bert Ellis, Los Angeles.

COLORADO
L. H. McKinnie, Colorado Springs.
H. R. McGraw, Denver.

CONNECTICUT
E. J. McKnight, Hartford.
D. Chester Brown, Danbury.

GEORGIA
E. C. Davis, Atlanta.
W. C. Lyle, Augusta.

HAWAII
C. B. Cooper, Honolulu.

ILLINOIS
G. L. Armstrong, Taylorville.
J. W. Hamilton, Mt. Vernon.
E. C. Gale, Pekin.
W. L. Noble, Chicago.
C. P. Caldwell, Chicago.
Henry F. Lewis, Chicago.

INDIANA
J. Rilus Eastman, Indianapolis.
Edwin Walker, Evansville.

IOWA
L. W. Littig, Davenport.
M. N. Voldeng, Woodward.

KANSAS
M. F. Jarrett, Fort Scott.

KENTUCKY
W. W. Richmond, Clinton.
A. H. Barkley, Lexington.

MARYLAND
G. Lane Taneyhill, Baltimore.

MASSACHUSETTS
J. B. Blake, Boston.
H. G. Stetson, Greenfield.
L. F. Woodward, Worcester.
Hugh Cabot, Boston.
B. W. Paddock, Pittsfield.

MICHIGAN
E. T. Abrams, Dollar Bay.
A. E. W. Yale, Pigeon.
L. J. Hirschman, Detroit.
H. E. Randall, Flint.

MINNESOTA
J. W. Andrews, Mankato.
W. A. Coventry, Duluth.

MISSISSIPPI
L. C. Feemster, Tupelo.

MISSOURI
E. H. Miller, Liberty.
A. W. McAlester, Jr., Kansas City.
H. L. Reid, Charleston.

MONTANA
LeRoy Southmayd, Great Falls.

NEBRASKA
A. I. MacKinnon, Lincoln.

NEVADA
M. R. Walker, Reno.

NEW HAMPSHIRE
Irving A. Watson, Concord.

NEW JERSEY
Linn Emerson, Orange.
Edward Guion, Atlantic City.
William S. Lalor, Trenton.

NEW MEXICO
William R. Tipton, E. Las Vegas.

NEW YORK
Dwight H. Murray, Syracuse.
Wendell C. Phillips, New York.
James W. Fleming, Brooklyn.
J. C. MacEvitt, Brooklyn.
Charles H. Richardson, New York.

OHIO
C. D. Selby, Toledo.
J. C. M. Floyd, Steubenville.

OKLAHOMA
Walter E. Wright, Tulsa.
Walter Penquite, Chickasha.

OREGON
Walter T. Williamson, Portland.

PENNSYLVANIA
Americus R. Allen, Carlisle.
J. Montgomery Baldy, Philadelphia.
Herbert B. Gibby, Wilkes-Barre.
Luther B. Kline, Catawissa.
Adolph Koenig, Pittsburgh.
William T. Hamilton, Philadelphia.
Joseph D. Findley, Altoona.
Thomas D. Davis, Pittsburgh.
Jesse Y. Scott, Washington.

TENNESSEE
Perry Bromberg, Nashville.
Jere L. Crook, Jackson.

TEXAS
C. E. Cantrell, Greenville.
Marvin L. Graves, Galveston.

UTAH
Sol J. Kahn, Salt Lake City.

VERMONT
C. H. Beecher, Burlington.

VIRGINIA
W. E. Anderson, Farmville.
Kirkland Ruffin, Norfolk.
R. C. Bryan, Richmond.

WASHINGTON
G. S. Peterkin, Seattle.
E. A. Rich, Tacoma.

WEST VIRGINIA
J. L. Dickey, Wheeling.

WISCONSIN
J. M. Dodd, Ashland.
A. H. Levings, Milwaukee.
J. F. Pember, Janesville.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE
Richard C. Cabot, Boston.

SURGERY, GENERAL AND ABDOMINAL
Dean Lewis, Chicago.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY
Channing W. Barrett, Chicago.

OPHTHALMOLOGY
Walter R. Parker, Detroit.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
George E. Shambaugh, Chicago.

DISEASES OF CHILDREN
T. C. McCleave, Berkeley, Cal.

PHARMACOLOGY AND THERAPEUTICS
John F. Anderson, Washington, D. C.

PATHOLOGY AND PHYSIOLOGY
A. W. Hewlett, Ann Arbor, Mich.

STOMATOLOGY
G. V. I. Brown, Milwaukee.

NERVOUS AND MENTAL DISEASES
W. W. Graves, St. Louis.

DERMATOLOGY
O. H. Foerster, Milwaukee.

PREVENTIVE MEDICINE AND PUBLIC HEALTH
Morgan Smith, Little Rock, Ark.

GENITO-URINARY DISEASES
F. M. McCallum, Kansas City.

HOSPITALS
F. A. Washburn, Boston.

ORTHOPEDIC SURGERY
John Ridlon, Chicago.

SAN FRANCISCO AND ENVIRONS

Her Romantic History and a Description of Her Unique Beauty

HISTORY

During the year of the signing of the Declaration of Independence at Philadelphia, Don Juan Bautista de Anza located the presidio (now our military post), the mission (which is still standing at the corner of Dolores and Sixteenth streets and open to visitors) and the pueblo or civil settlement on the shores of Bahia de Puerto de San Francisco. This was the most northern of the chain of missions established along the west coast of the Spanish colony of Alta California. The pueblo was called Yerba Buena after a weed of the same name which was supposed to promote fecundity. The mission, whose patron saint was St. Francis d'Assisi, was founded a "league" farther south.

The little pueblo continued its sleepy existence until 1847, when California was seized by Fremont and Commodores Sloat and Montgomery for the United States, and the name Yerba Buena was changed to San Francisco.

Between the time of the founding of the mission and the American seizure, the port was practically closed; but its value was recognized as a port of call for ships "around the Horn" or from the Isthmus of Panama bound for the Orient, as it lies directly on the shortest path followed by these craft.

In 1848 gold was discovered, and in the following year began the great gold rush, not less than 70,000 immigrants crossing the plains and coming by way of Panama, a monthly steamer service from New York having been established. San Francisco was as deserted as though the male population had been mustered for war. Every man who possibly could do so rushed to the mines. Even the ships in the harbor could not sail, as most of their sailors deserted to go to the mountains in search of the yellow metal. It was very soon seen, however, that fortunes could be made by the San Francisco merchants in supplying the prospectors and camps with their necessary food and implements, and from a sleepy maritime village of 850 inhabitants, San Francisco overnight became a thriving city. By July, 1849, the population had exceeded 5,000; in September it was 20,000. The gold yield that year was $23,000,000.

Fig. 2.—Topography of San Francisco and environs.

The "forty-niners" were of two classes: sterling pioneers who came to develop the recently discovered gold fields, and those "living by their wits" who preyed on any to whom wealth came as newly and easily acquired estate. Sometimes in the open, at others in the quiet, but constantly, there was strife between these two elements of the population, which frequently resulted in lawless acts. On two occasions, once in 1851 and later in 1865, a vigilance committee responded to the call to overrule anarchism. So effective was the work of the latter of these that there never has been need for a third vigilance committee.

The completion of the transcontinental railroad in 1869 marks the entrance of San Francisco on its commercial development, which has been one of steady progress.

THE COMSTOCK DAYS

In 1859 the Comstock Mines were opened, and between the years 1872 and 1875 speculation was rife on the stock exchange in San Francisco. During the slump of 1872, prices dropped sixty million dollars in ten days, and in 1875 forty-two millions were lost by the San Francisco public in a single week. The latter panic closed the period known as the "Comstock or Bonanza Days"—that romantic period in California history immortalized by Mark Twain and Bret Harte.

THE EARLY FIRES

From December, 1849, to May, 1851, San Francisco was burned almost to the ground six times, in all over fifteen million dollars' worth of merchandise and buildings being consumed. After each fire, while the city was still smoldering, rebuilding was begun, the result always being a city better than that which had just been destroyed.

THE EARTHQUAKE AND FIRE

Up to 1906 the city had grown steadily. On the morning of April 18 of that year an earthquake shook the city, breaking the water mains leading into it. Numerous fires started which soon became uncontrollable owing to lack of water, and in three days there were destroyed 28,000 buildings over an area of 4 square miles, comprising 497 square blocks. Once more, as the city was smoldering, the rebuilding began, and now, nine years later, it is the city selected for the commemoration of the completion of the Panama Canal, marking the beginning of a new era.

Fig. 3.—Views in and about San Francisco: Upper, a street scene in picturesque Chinatown. Left center, Market Street in the business district near Eddy Street. Right center, the museum, entrance Golden Gate Park. Lower, Bathing near Cliff House and Seal Rocks.

TOPOGRAPHY AND DESCRIPTION

The Coast Range Mountains extend along the western shore of the American continent. The only break in the continuity of this range is where the waters of San Francisco Bay, into which flow the two great rivers, the Sacramento and the San Joaquin, draining the great central valley of California, to pass out into the Pacific Ocean through the Golden Gate.

The city of San Francisco is situated on the northern extremity of a hilly peninsula, having on its east and northeast San Francisco Bay, on the north the Golden Gate and on the west the Pacific Ocean.

In the great submerged mountain-locked basin, 65 miles long and from 4 to 10 miles wide, which forms San Francisco Bay, the harbor of the city, there project above the surface of the water the peaks of three mountains: Alcatraz Island, a military post, Angel Island, the United States quarantine and immigration stations, to the north of the city, and the Island of Yerba Buena, the United States naval training station, to the east.

The present eastern portion of the city, from Montgomery Street to the Embarcadero, is filled ground, the bay along this shore being sufficiently deep for the largest ocean liners to dock.

The city of San Francisco extends from the bay on the east to the beach along the shores of the Pacific on the west, a distance of about 7 miles. The eastern portion is relatively level and is occupied by the wholesale and retail business districts.

THE BUSINESS SECTION

The business section of San Francisco is perhaps the most modern in the world. With the exception of the building occupied by the United States appraiser, every structure in

it has been built since the fire of 1906. The handsomest of these buildings are found in the financial district, where some of the insurance and bank buildings are well worth inspection by those interested in the adaptation of the classic and Renaissance architecture to our present utilitarian purposes.

Fig. 4.—Hospitals at San Francisco: Upper, St. Mary's Hospital. Center, Mount Zion Hospital. Lower, Southern Pacific Company Hospital.

The residence portion of the city is on the sides of the numerous hills rising to a height of several hundred feet on the north and west. The sites most desired for homes are those having an outlook on the bay and the Golden Gate. These steep hills form the principal charm of San Francisco, and their occurrence and attractiveness can be well appreciated when it is recalled that the Golden Gate is a great gorge cut through the mountains by the waters from the great central valley of California. San Francisco is built on the coast foothills of these mountains.

The city is built on two kinds of substrata—on rock in the hilly portions and business district, and on sand dunes in the westerly and southwesterly portion.

Notwithstanding the development of the modern apartment house, the San Franciscan builds his own home whenever possible, and numerous residence parks are the sites of homes of the moderately well to do. Solid blocks of residences built on a single plan are rare. The land is mostly owned in small lots by individuals, each of whom builds according to his own ideals, so that instead of the characterless, monotonous piles, there is a constant variety, each home reflecting the character and taste of its owner.

PARKS AND PLAYGROUNDS

In both the residence and business districts, numerous small parks and squares have been set aside by the municipality so that fresh air and light shall be plentiful.

Throughout the residence district there are a large number of free playgrounds under proper direction for the children of the neighborhood.

The city's great playground, Golden Gate Park, extends from the ocean beach 4½ miles into the city, and comprises within its limits 1,013 acres. This wonderful park has been built under the guidance of John McLaren, one of the great landscape gardeners. He has been able to grow plants brought from every part of the world on what were once hopeless, barren sand dunes. Here, too, there are numerous wild animals, such as the bison, kangaroo and elk, running free in large enclosures. Baseball fields, tennis courts, a large children's playground, a trotting park, in fact, provisions for almost any sport, are available. There is no closed athletic season, and sports may be enjoyed here from January 1 to December 31.

Through the efforts of an individual, there has been installed in Golden Gate Park a Japanese tea garden, built and cared for by Japanese gardeners, and representing in its entirety the miniature landscape garden and horticultural methods which are seen only in Japan.

The Memorial Museum in Golden Gate Park contains many art treasures and objects of local and general historical interest, and is well worth a visit.

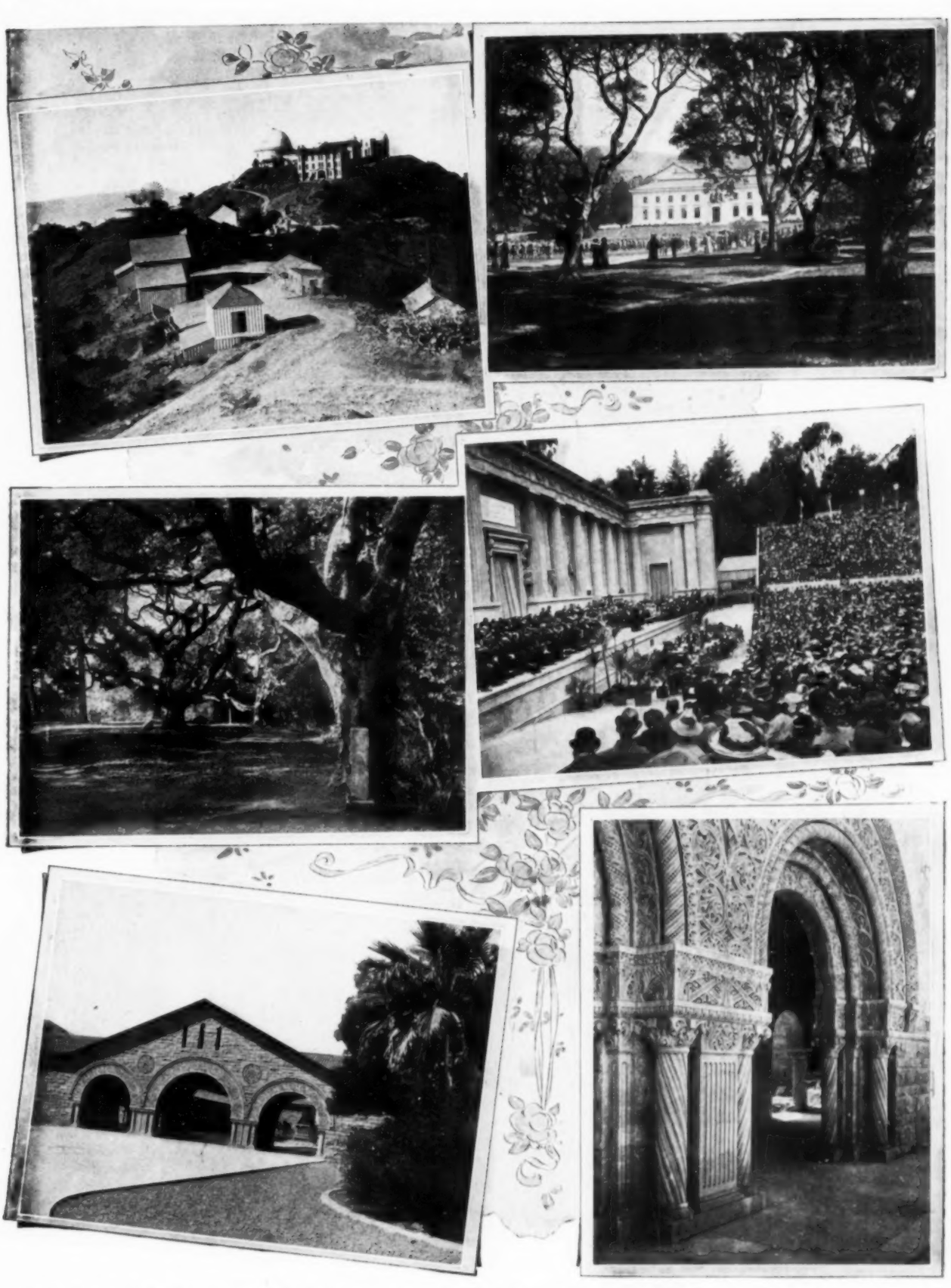


Fig. 5.—The Lick Observatory and the Universities: Upper left, Lick Observatory, Mount Hamilton. Upper right, campus, University of California, Berkeley. Left center, Oaks, University grounds, Berkeley. Right center, Greek theater, University of California. Lower left, Quadrangle, Leland Stanford Junior University, Palo Alto. Lower right, Arches, Leland Stanford Junior University.

Along the beach for a distance of about 5 miles, the municipality has built a handsome boulevard directly continuous with Golden Gate Park and the city's boulevard system. To the north, this boulevard ascends the hill surmounted by the famous Cliff House and the Sutro swimming baths and Sutro Heights, and leads by an interconnecting boulevard system to the presidio, the United States military reservation, which is a large park covering over 1,500 acres. The reservation is open to visitors. From its steep, rugged bluffs, the outlook across the Golden Gate with Mount Tamalpais on the opposite shore is a sight never to be forgotten. Joining it on the east and occupying part of its territory on the south shore of the bay is the Panama Pacific International Exposition. It is not possible here to go into detail concerning this exposition and its beautiful buildings with their wonderful coloring and setting, but as part of the exercises of the meeting of the Association are to be held within its gates, those who come to San Francisco in June will see for themselves.

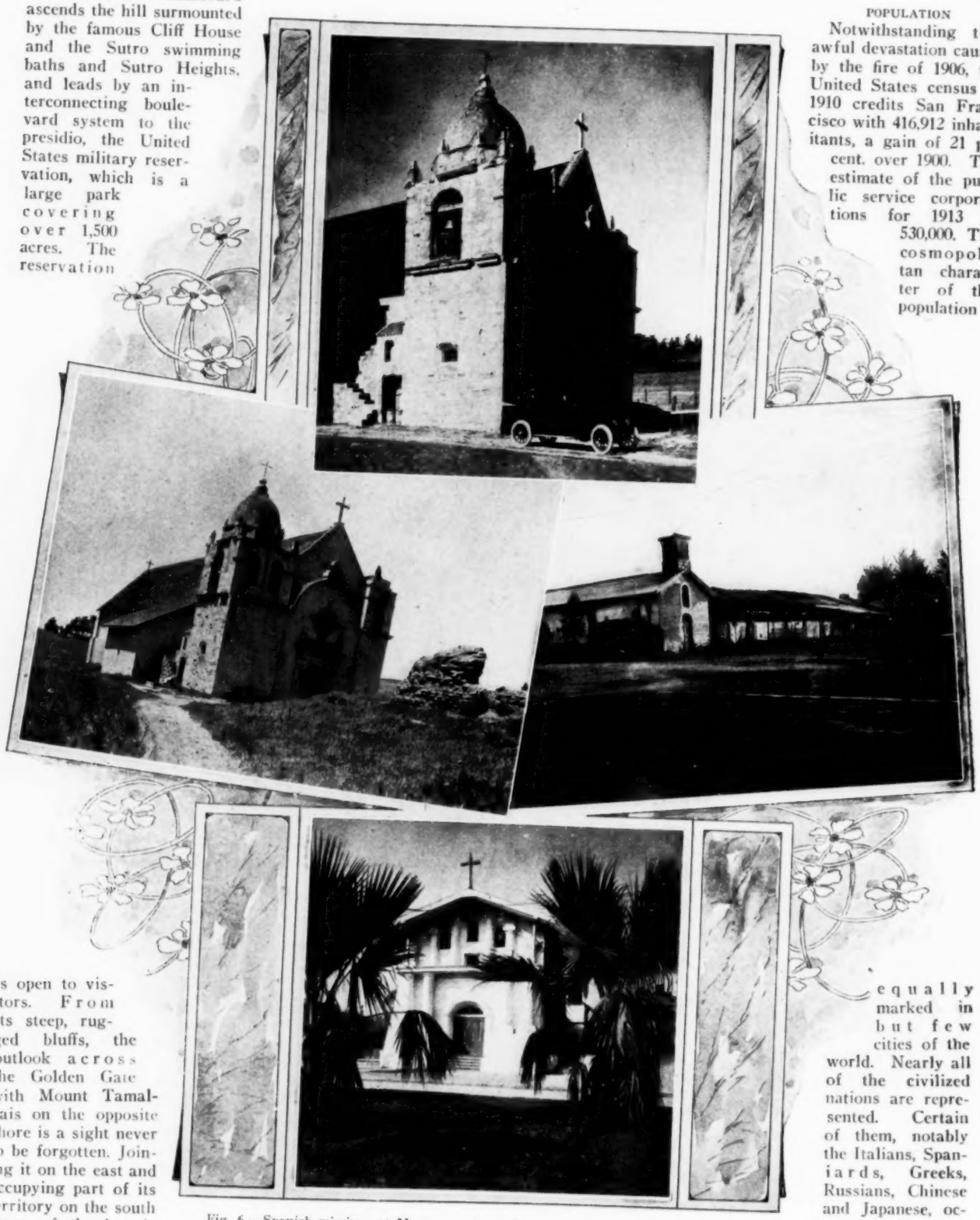


Fig. 6.—Spanish missions at Monterey, ninety-four miles south of San Francisco, where there are many instances of picturesque Spanish architecture. Above are views of the Carmel Mission, and below, of the Mission Dolores.

POPULATION

Notwithstanding the awful devastation caused by the fire of 1906, the United States census of 1910 credits San Francisco with 416,912 inhabitants, a gain of 21 per cent. over 1900. The estimate of the public service corporations for 1913 is 530,000. The cosmopolitan character of the population is equally marked in but few cities of the world. Nearly all of the civilized nations are represented. Certain of them, notably the Italians, Spaniards, Greeks, Russians, Chinese and Japanese, occupy entire districts of the city, giving to them a distinctive and foreign character, which is extremely picturesque.

The Italian district, lying as it does upon the steep slopes and base of Telegraph Hill overlooking the bay, is like a

bit of old Naples transported into the midst of a busy American city, even to the steep streets with steps cut into the hillside for sidewalks. Here one finds Italian attorneys, physicians, bankers and booksellers, as well as Italian newspapers and macaroni and spaghetti factories. Here, too, are many restaurants and cafés where, for a moderate sum, a good dinner consisting of those dishes for which Italy is so justly famous may be enjoyed. Nearby is Fisherman's Wharf where butcher shops with their dried meats, fish and poultry, and the greengrocers with their odd sorts of vegetables attract the attention of practically every visitor. The joss-houses (houses of worship) are interesting, not alone for their religious significance, but also for that display of skill at color combination and decorative effect in which the oriental has always so far excelled the occidental. Along Grant Avenue are Chinese and Japanese shops where Oriental silks

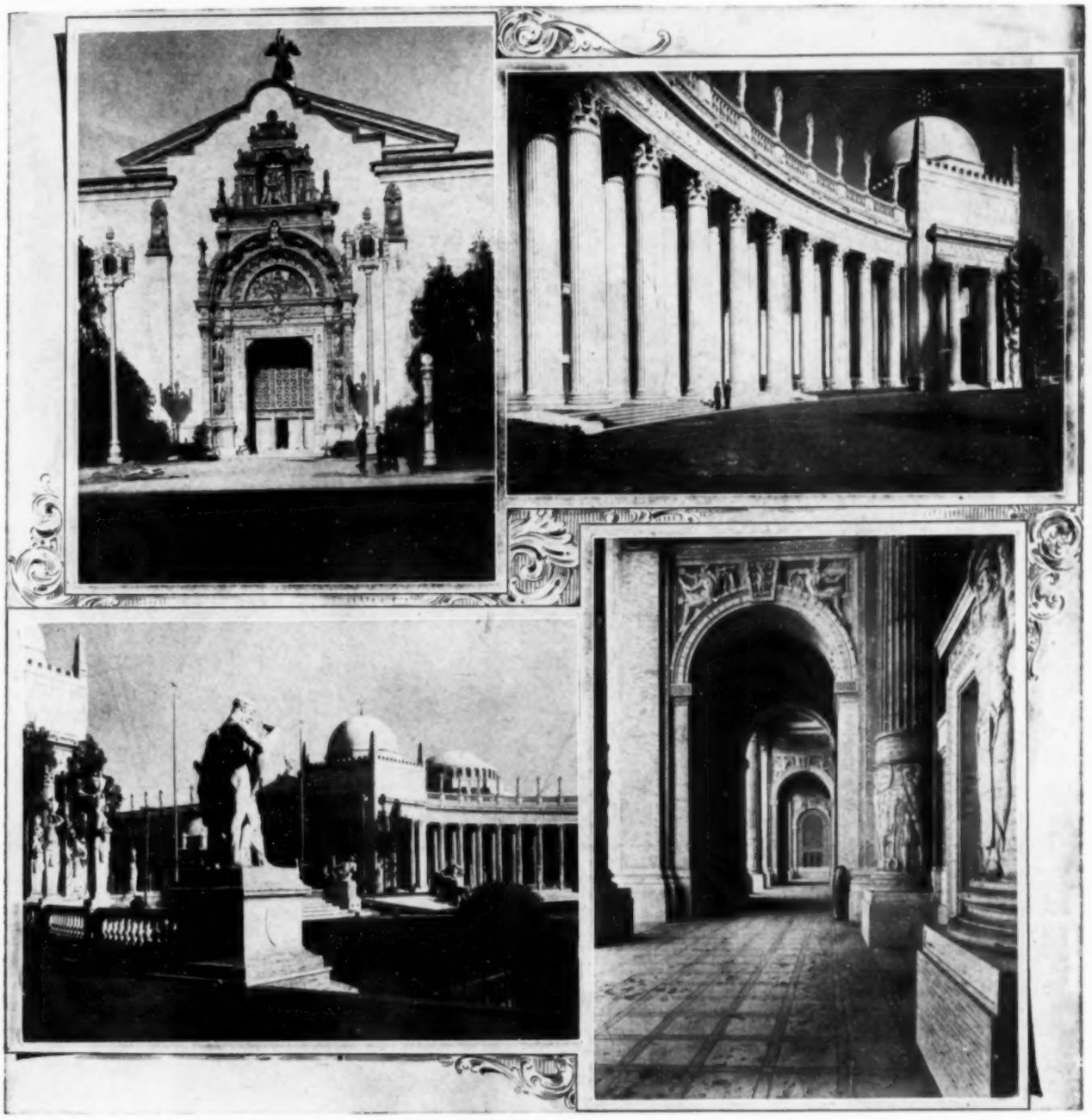


Fig. 7.—A few scenes at the Exposition; Upper left, Portal of Palace of Varied Industries. Upper right, Court of the Universe. Lower left, Colonnade. Lower right, Corridor of Palace of Machinery.

Venetians, Genoese, Neapolitans, Sicilians and Greeks, few of whom can speak other than the mother tongue, earn their livelihood with boat and net, following the only occupation which they have known since the cradle.

CHINATOWN

Chinatown encompasses within its few square blocks almost the entire Chinese population of the city. It is veritably the Orient, modified by its occidental surroundings. The embroideries, bronzes and furniture, prints and paintings tempt the lover of the beautiful and the unique.

THE GREEK COLONY

The Greek colony is principally along Third Street where there are Greek cafés, restaurants and other things of interest. It is not, however, old enough, nor have its citizens become sufficiently influential, to make a definite imprint on the life of the city.

CLIMATE

The following is culled from the U. S. Weather Bureau Reports: The mean temperature in the month of June is 56.3 F. There is 75 per cent. of the possible amount of sunshine. There is an average of one rainy day and one thunder storm during the month of June.

Between the hours of 7 and 9 in the morning and 3 and 7 in the afternoon it is apt to be foggy, the city being covered by a fog blanket about 1,700 feet deep. Between the hours of 3 and 7 in the afternoon it is frequently windy, the wind and fog usually disappearing after nightfall.

Fig. 8.—San Francisco Hotels: Palace (above); Fairmont (middle); St. Francis (below).

COOL MORNING AND EVENING

Because of these chilly winds and fogs, the visitor is advised to bring with him medium-weight clothing and underwear, and to have a suitable wrap or overcoat when he leaves his hotel in the morning, because before he returns at night the winds may have sprung up and the temperature may suddenly drop many degrees.

WATER SUPPLY

At present San Francisco is supplied with safe, pure water by a public service corporation; but as the supply is rapidly growing inadequate, the municipality has undertaken this phase of public service and is building a large reservoir by damming the Hetch-Hetchy Valley near the Yosemite in the Sierra Nevada Mountains.

MEDICINE

There are about 1,200 practicing physicians in San Francisco. The San Francisco physician usually has his office apart from his home in a physicians' office building, suited to all the needs of the practice of modern medicine, in the heart of the retail business district.

Nearly all of the hospitals, of which there are about twenty, are modern structures built since the fire of 1906, and are open to any reputable physician.

THE MEDICAL SCHOOLS

In San Francisco, the University of California and the Leland Stanford Junior University both maintain coeducational medical schools (rated Class A by the Council on Medical Education of the American Medical Association). Both these schools have been recently reorganized and are integral parts of their respective universities. The fundamental sciences and many of the clinical subjects are taught in both institutions by full-time men. Each has its own teaching hospital and outpatient department, as well as a large independent service in the San Francisco City and County Hospital, which has just been rebuilt and will be occupied during the summer of

this year. Both Stanford and the University of California have plans and funds for the construction of large modern teaching hospitals for the near future.

In connection with the University of California, through the munificence of Mrs. George Williams Hooper, there has been established the "George Williams Hooper Foundation for Medical Research" with an annual income of from fifty to one hundred thousand dollars.

Both these schools limit the number of students admitted to classes and require the hospital year. In addition, there are in San Francisco the College of Physicians and Surgeons, the Hahnemann Medical College and the San Francisco Polyclinic; the last-named engages exclusively in graduate teaching.

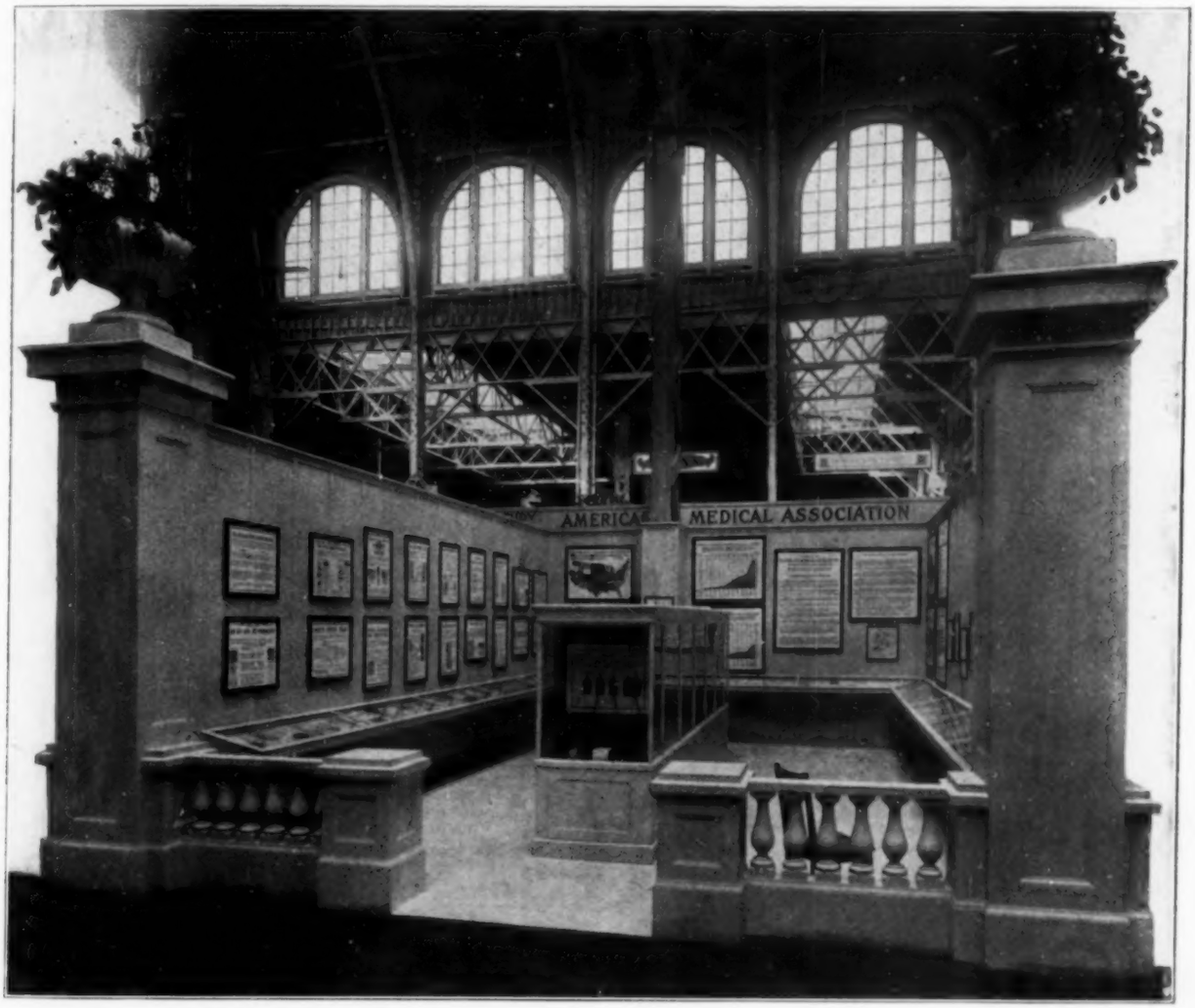


Fig. 9.—American Medical Association Exhibit at the Panama-Pacific Internation Exposition.—(See page 1716.)

MEDICAL LIBRARIES

The Lane Medical Library, occupying its own building adjoining the Medical Department of Stanford University, has 40,000 volumes. Its reading rooms and other facilities are open to the general medical profession without charge. On the payment of a small yearly subscription, the privilege of taking out books and journals is granted. This is the largest and most complete medical library west of Chicago.

The San Francisco County Medical Society has a working library of about 6,500 volumes for the use of its members.

SHOPPING DISTRICT

Entirely rebuilt since the fire, the shops of San Francisco offer to the visitors a most pleasing, artistic and attractive display of wares. Large department stores are numerous, and the small shops which specialize in art, wearing apparel, books, jewels, antiques and oriental goods will appeal to the discriminating purchaser. The fruit shops are particularly fine, and flowers are, at all times of the year, inexpensive. Beautiful flowers in season are sold for a "mere song" by the street venders, to be found on almost every corner in the shopping district.

PLACES OF SPECIAL INTEREST

GOLDEN GATE PARK

Golden Gate Park, mentioned above, is so well known that a detailed description is unnecessary here.

The ocean beach, along which the city has constructed a magnificent boulevard, is thronged, throughout the year, particularly on Sunday, by all classes. It is the city's great picnic ground.

THE CLIFF HOUSE

Towering above the northern end of the ocean beach, on a fierce, rocky, wave-dashed bluff is the Cliff House. Here, overlooking the Seal Rocks, one may dine, with the gorgeous play of colors of the sun setting over the Pacific Ocean beneath.

Across the road from the Cliff House is Sutro Heights, a private park overlooking the ocean. It is open to visitors, and from its parapet there is a comprehensive view of the beach, Cliff House and surroundings.

MINT

On the corner of Fifth and Mission streets is the United States mint, one of the nation's four coining plants. It is open to visitors, and the entire process of coining money is explained by competent guides.

Music

Two permanent symphony orchestras playing during the winter are maintained by groups of public spirited citizens. The personnel of these orchestras is at present largely incorporated in the official exposition orchestra. There are numerous musical clubs of high rank. Throughout the year the city is visited by all of the leading concert artists and occasionally by the great opera companies.

Environs of San Francisco

At an expense of $18,000,000 the state of California has constructed a series of highways for the benefit of its residents. The roads are built on a concrete base with a fine asphalt covering, so that motoring from San Francisco is a pleasure. The speed limit throughout the state, outside of closely built portions, is 30 miles an hour. These roads, where completed, make all points in the state of easy access. In the vicinity of San Francisco most of these roads are in use.

OAKLAND, ALAMEDA AND BERKELEY

Directly across the bay from San Francisco, at the base of the foothills, lie its three sister cities, Oakland, Alameda and Berkeley.

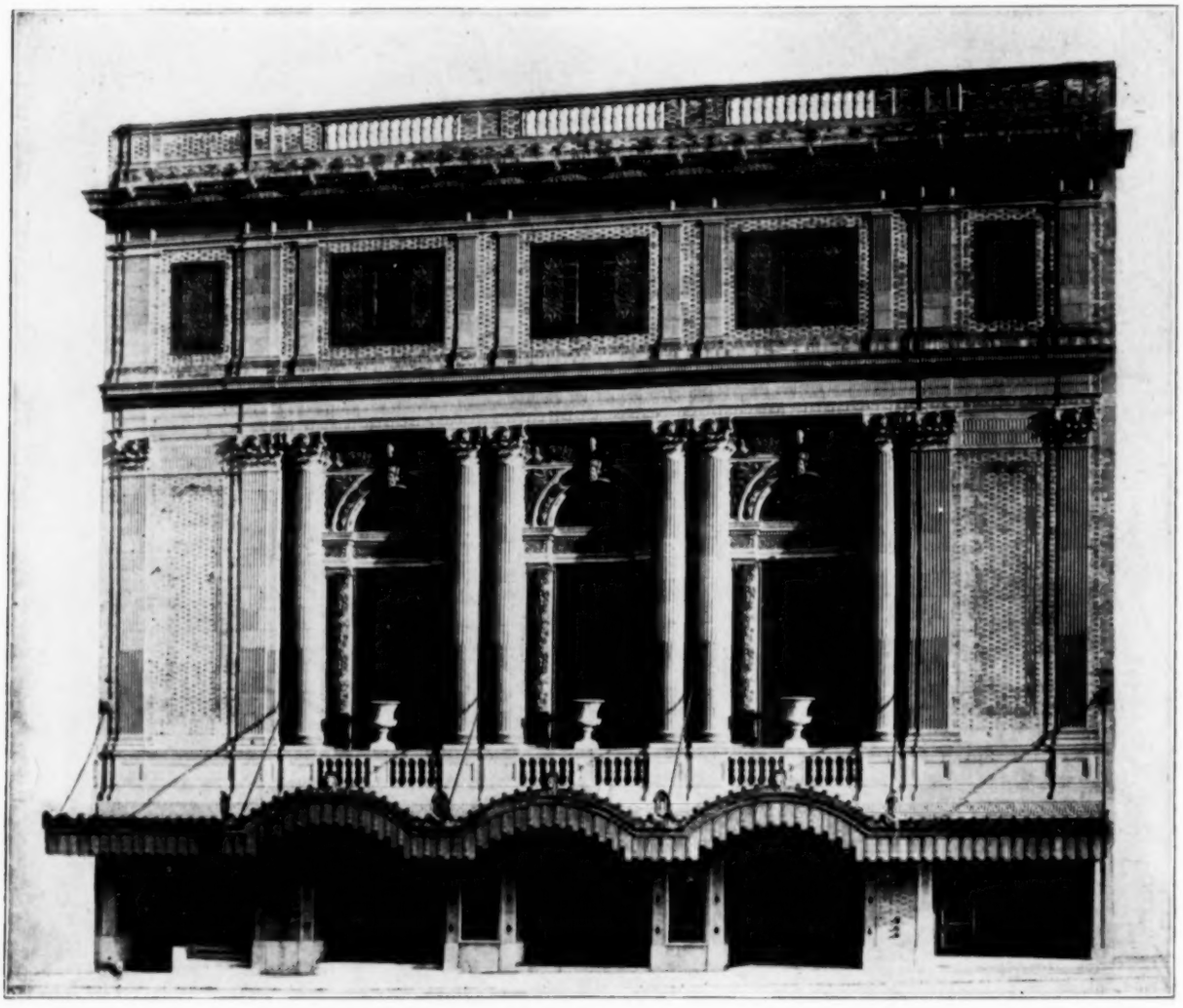


Fig. 10.—The Columbia Theater, where the Opening Meeting will be held.

Restaurants

San Francisco is famous for its restaurants. Because of the cosmopolitan population, they offer an endless variety of choice to the visitor. The leading hotels have in conjunction restaurants similar in price and style to those connected with first-rate hotels in any large city. Restaurants, however, are so numerous and so varied that by a judicious choice the visitor can dine in San Francisco more cheaply and as well as he can in a similar class of restaurant anywhere else on the continent.

Many of the smaller restaurants, some of them situated in out-of-the-way places, are famed for their cuisine and have specialties, national or local, which are sure to tempt the palate of the stranger.

In Berkeley is situated the University of California, the outlook from its campus through the Golden Gate at sunset being among the finest views in the world. As the members of the Alameda County Medical Association have arranged to take the visiting Fellows of the American Medical Association as their guests on an excursion by automobile from Oakland to Berkeley through the University of California and the Piedmont foothills and canyons, it is unnecessary here to give details concerning the natural beauties of this region.

THE UNIVERSITY OF CALIFORNIA

The University of California at Berkeley is the largest university in America and is coeducational. There are registered 8,700 students; the figure does not include the students

in the Department of Agriculture at the experimental farm at Dixon, those in the Hopkins Institute of Art in San Francisco or those in the extension courses. Tuition is free to residents of California. The University campus of 520 acres extends almost to the top of the beautiful Berkeley hills.

The world famous Greek theater with a seating capacity of 8,000 is built in a natural amphitheater in the hills back of the university, in the midst of groves of eucalyptus. Here the famous Greek classics are reproduced, and great actors and musicians perform by invitation. On Sunday afternoon there is given a "half hour of music" to which the public is welcome. Should there be an evening performance in the Greek theater during the session of the Association, the visitor is urged to take advantage of the opportunity to witness a great drama or to hear a great singer in these wonderful surroundings on a summer's night under the open sky.

MOUNT TAMALPAIS AND MUIR WOODS

Mount Tamalpais rises to a height of 2,600 feet to the north of the Golden Gate. On its summit is a good inn where one may remain overnight. It is reached by a ferry boat to Sausalito, a small town of pretty homes built on the sides of a steep bluff. From here an electric railroad takes one to Mill Valley, a village hidden away in deep wooded canyons; the Mount Tamalpais Railroad runs from here to the summit. The entire San Francisco Bay region, and on a clear day even the Sierra Nevada Mountains, may be seen from here.

Lying at the base of Mount Tamalpais are the Muir Woods, a national monument of 295 acres of virgin redwoods presented to the nation by William Kent in honor of John Muir, the great naturalist. Many of the trees are 300 feet in height and from 50 to 60 feet in circumference. There is also a good inn here. The train may be taken at Mill Valley for Muir Woods, or arrangements made to include both the summit of Mount Tamalpais and Muir Woods in a single trip. The round trip to Mount Tamalpais, exclusive of a stop at the summit, is about six hours; to Mount Tamalpais and Muir Woods, about nine hours.

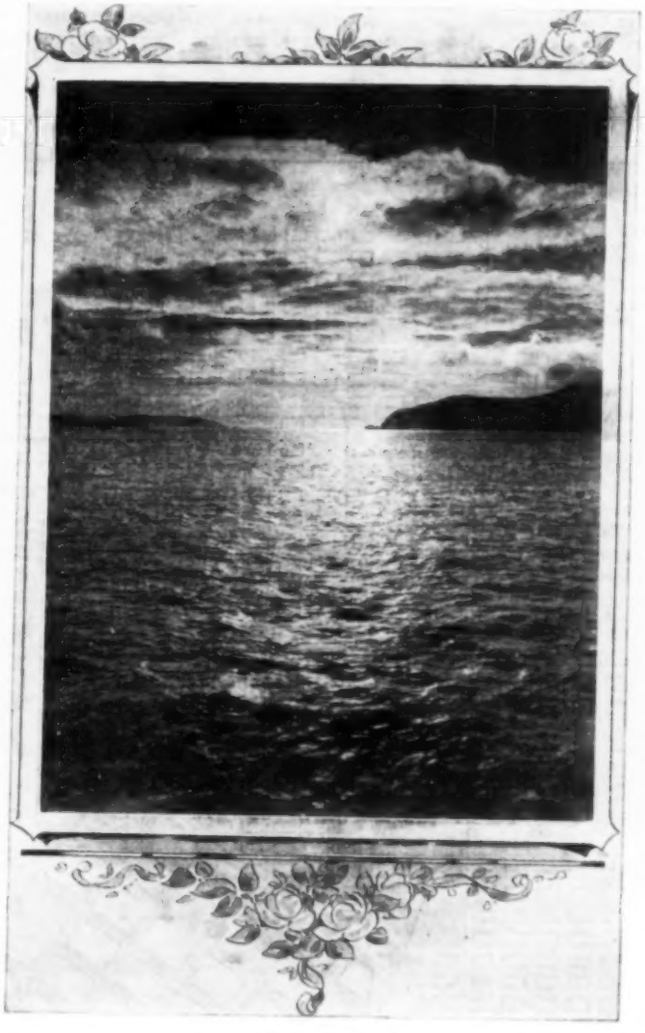


Fig. 11.—The Golden Gate.

DEL MONTE, MONTEREY, CARMEL AND PACIFIC GROVE

Four hours by train takes the visitor to the old town of Monterey on Monterey Bay, the Mexican capital of California and the seat of the *Presidente* of the Mission padres during their ascendancy. Here the American flag was first raised by Commodore Sloat in 1846. A number of the old adobe buildings of the Spanish days still stand. A drive of 4 miles around the bay takes one to the village of Carmel-by-the-Sea, a quaint little town where there is a colony of writers and artists. At both Monterey and Carmel are attractive Spanish Mission churches. The chief scenic attraction is the Seventeen Mile Drive, one of the famous drives of the world, which has been favorably compared with the drive to Naples from Sorrento.

Possibly the most interesting characteristic of the Monterey peninsula is that it forms what is known as an "arboreal island," that is, circumscribed and geographically well defined, so far as the trees are concerned, from the surrounding flora.

This peninsula is one of the most striking examples of an arboreal island in the world. The Monterey cypress is found here and nowhere else. Several varieties of pine found on this peninsula are found also in small islands farther south along the coast and nowhere else. The wind-blown Monterey cypress always attracts attention.

LICK OBSERVATORY AND SANTA CLARA VALLEY

Fifty miles south of San Francisco, just below the southern tip of San Francisco Bay in the heart of the Santa Clara Valley, the most fertile valley in the world, lies the city of San José, known as the Garden City. Here will be seen thousands upon thousands of acres of deciduous trees laden with ripe fruit. Peaches, prunes, almonds and cherries form the principal growths. San José and Santa Clara are old mission towns, and at Santa Clara is situated the College of the Pacific, a Roman Catholic university.

From San José the trip may be made to Lick Observatory, where visitors are permitted to look through the great telescope on Saturday nights.

PALO ALTO AND STANFORD UNIVERSITY

Thirty-five miles south of San Francisco lies the town of Palo Alto, which has grown up about Stanford University. The university has an endowment of $25,000,000. It is coeducational, the number of women being limited. The buildings, lying in a large and beautiful park of 7,000 acres, formerly the stock farm of the late Senator Stanford, extending into the foothills, are arranged principally on the triangle plan. They are long and low, of light brick and brown stone in the old Spanish Mission style. The long colonnades with their elaborately carved columns create a most pleasing impression. The Memorial Chapel has in its façade some beautiful mosaics.

YOSEMITE VALLEY AND THE BIG TREES

The Sierra Nevada Range has on its western slope many glacier-sculptured gorges. By far the most wonderful and beautiful of these is Yosemite Valley. Yosemite lies almost directly east of San Francisco in Yosemite National Park, and is 240 miles by rail or 200 miles by motor. Those whose time is limited should note that one can leave San Francisco in the evening and arrive at Yosemite Valley late the following morning.

Owing to the heavy rains and snows, the falls will be particularly fine this year. The falls are best visited late in May and during the month of June, as the fall of water diminishes as the summer advances.

Yosemite Valley is a beautiful grass-carpeted meadow, 4,000 feet above the sea, varying from one-half to one mile in width, above which on either side tower the sheer granite walls, over which great waterfalls plunge, almost 3,000 feet in height. Along the floor of the valley flows the swift Merced River.

Besides a hotel, there are numerous camps under government supervision where the visitor is made extremely comfortable during his stay in the valley.

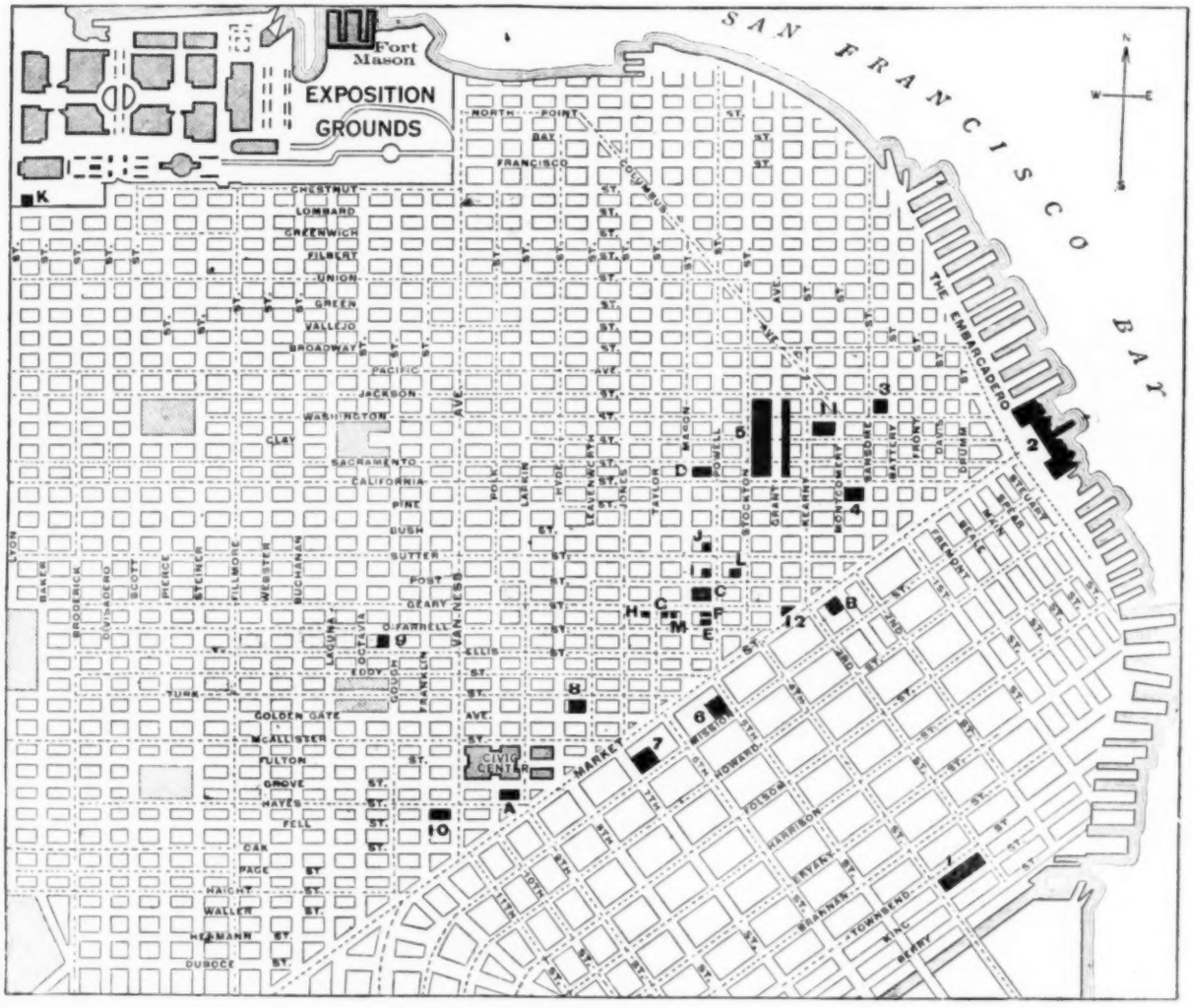
In the Yosemite National Park is the Mariposa Grove of Big Trees. These trees (*Sequoia gigantea*), a different species from the *Sequoia sempervirens* found in Muir Woods and along the western slope of the Coast Range Mountains, occur as an "arboreal island" on the western slope of the Sierra Nevadas from the Yosemite region southward only. The trees of this grove vary in height up to 225 feet, and some of them have a diameter of 25 feet, 6 feet above the ground. An extra day, or better two, is required to visit this grove, which lies near Wawona, a small settlement in the Sierras about 26 miles from the valley by automobile. In arranging a journey to Yosemite Valley, it is wise to make the trip a circular one, going from San Francisco to Wawona, visiting the Big Trees and thence to Yosemite Valley, returning directly to San Francisco.

For those fond of mountaineering and exploration, camping parties can be made up to start from Yosemite or Wawona for a tramp into what is known as the High Sierras, a wonderful alpine region above and back of Yosemite Valley. Complete camping outfits can be had from the guides engaged in this business.

Sports

All of the outdoor sports, including golf, tennis and polo, which are mentioned as possibly of special interest to physicians, are indulged in throughout the year.

During June the fishing season is open throughout the state, and those intending to visit the mountain region should bring their rods and flies with them.



MAP OF SAN FRANCISCO

A. Exposition Memorial Auditorium, Civic Center.
B. General Headquarters—Practice of Medicine—Palace Hotel, Market and New Montgomery.
C. Surgery, General and Abdominal—Obstetrics, Gynecology and Abdominal Surgery—St. Francis, Powell and Geary.
D. Ophthalmology — Laryngology, Rhinology and Otology — Fairmont, Mason and California.
E. Genito-Urinary Surgery—Manx, Powell and O'Farrell.
F. Orthopedic Surgery—Stewart, Geary and Powell.
G. Preventive Medicine and Public Health—Clift, Geary and Taylor.
H. Pathology and Physiology—Bellevue, Geary and Taylor.
I. Nervous and Mental Diseases—Chancellor, Powell and Post.
J. Diseases of Children—Cartwright, Sutter and Powell.
K. Hospitals—Inside Inn.
L. Dermatology—Plaza, Post and Stockton.
M. General Meeting—Columbia Theater, Geary and Mason.

Other public buildings located.

1. Third Street Depot.
2. Union Ferry Depot.
3. U. S. Custom House.
4. Chamber of Commerce.
5. Chinatown.
6. U. S. Mint.
7. U. S. Postoffice.
8. Y. M. C. A.
9. Y. W. C. A.
10. Public Library.
11. Hall of Justice.
12. San Francisco Hotel Bureau

TRANSPORTATION TO THE MEETING

The Committee on Transportation and Place of Session urges Fellows to consult the local ticket agent in their town for complete information regarding rates, time limits, extensions and stop-over privileges available, in making the trip to San Francisco for the annual session of the Association. There is on file in every ticket office the traffic schedule which officially informs local agents of the rates from that point. Fellows should not leave the determination of the route desired until just before they are ready to start on the trip. Local ticket agents may have to obtain special tickets for these excursions from central points, and this must be arranged in time so that the tickets may be purchased when the journey is begun. General announcements outlining the routes available for travel to San Francisco have appeared from time to time in THE JOURNAL.

A summary of these announcements follows: Travel from the East to the Pacific Coast passes in the main through three "gateways"—Chicago, St. Louis and New Orleans. In other words, eastern trunk lines carry passengers to Chicago, St. Louis or New Orleans and from these points, other railroad systems take them to the Pacific Coast.

These western routes can be grouped roughly, according to the point at which they cross the Rocky Mountains, into the northern (the extreme northern one going through Canada), the central and the southern routes.

RAILROAD AND PULLMAN FARES

The following railroad fares have been announced to San Francisco and return: via direct routes from Chicago, $62.50; from St. Louis or New Orleans, $57.50; one way (not both) via Portland, Ore., Seattle, Wash., or Victoria, B. C., from Chicago, $80; from St. Louis, $75; from New Orleans, $83.75.

The cost of Pullman service to San Francisco can be estimated from the following rates from the points mentioned. These are for space in regular line cars for a continuous trip and do not cover service in special cars or trains where stopovers are to be made at points en route to San Francisco.

Pullman rates from the following principal cities are:

PULLMAN RATES TO SAN FRANCISCO

From	Drawing Room	Compartment	Section		Tourist	
			Upper	Lower	Upper	Lower
Boston	65.00	52.00	14.80	18.50	7.80	9.75
New York	63.00	50.50	14.40	18.00	*	*
Washington, D. C.	62.00	49.00	14.00	17.50	....	9.00
Chicago	46.00	36.50	10.40	13.00	5.60	7.00
St. Louis	44.00	35.00	10.00	12.50	5.20	6.50
New Orleans	41.00	32.50	9.20	11.50	4.60	5.75

* No Tourist.

BY WATER ROUTES

In addition to these all-rail routes, part or all of the trip may be made by water. From points on the Atlantic Coast, boats sail to New Orleans, and then through the Panama Canal or directly through the canal and up the Pacific Coast to San Francisco. This all-water route takes about two weeks, and the rates vary in accordance with the accommodations; first cabin passage, one way, between New York and San Francisco, is $125 and up. On the Pacific Coast, the trip may be made by boat between the following points: San Diego and Los Angeles, San Francisco, Portland, Seattle or Tacoma and Vancouver.

Special Trains

Special trains from Chicago to San Francisco will be over three different routes. These trains will be designated the American Medical Scenic Route Special, the American Medical Grand Canyon Route Special, and the American Medical Direct Route Special.

THE AMERICAN MEDICAL SCENIC ROUTE SPECIAL

This train will go over the Chicago, Burlington and Quincy Railroad from Chicago to Denver, and the Denver and Rio Grande, Denver to San Francisco. The party is to be personally conducted. There will be two trains: Train No. 1 will leave Chicago at 9:45 a. m., June 15, and arrive at San Francisco 5 p. m., June 20.

Train No. 2 will leave Chicago at 9 p. m., June 16, and arrive at San Francisco 5 p. m., June 20.

THE AMERICAN MEDICAL DIRECT ROUTE SPECIAL

This train is routed over the Chicago and North Western Railroad, Union Pacific and Southern Pacific, and the schedule is arranged with a view of making the trip between Chicago and San Francisco in as short a time as is practical.

The train is scheduled to leave Chicago, Friday, June 18, at 5:30 p. m., and to arrive at San Francisco, Monday, June 21, 11 a. m., making the run between Chicago and San Francisco in sixty-five and one-half hours.

THE AMERICAN MEDICAL GRAND CANYON ROUTE SPECIAL

The American Medical Grand Canyon Route Special is scheduled to leave Chicago, June 13, at 8:05 p. m., via the Santa Fe, and to permit visits to the Grand Canyon and the Panama California Exposition at San Diego en route, and to arrive in San Francisco, June 21, at 9:40 a. m. The entire day of June 16 will be spent at Grand Canyon, Arizona, and the day of June 18 at San Diego, arriving in San Francisco Monday morning, June 21, at 9:40. An additional fare of $7.50 is charged for the Grand Canyon side trip. The Pullman rates for lower berth are $5 more than the rate for direct routes without stopover.

NEW YORK AND NEW ENGLAND SPECIAL

This train, under the management of McCann's Tours, provides a fast schedule, leaving eastern points in the afternoon and evening of June 16 and getting to San Francisco on Sunday evening, June 20. The return trip will be made in a leisurely manner over an interesting scenic route, including a trip from San Francisco to Portland by way of the Shasta line, returning to New York on Thursday, July 8. Those who are not disposed to return by the route indicated may arrange to take the special train to San Francisco and to return within three months after the date of starting, by any authorized route selected.

CHICAGO MEDICAL SOCIETY SPECIAL TRAIN

A train is being arranged by the Chicago Medical Society. Dr. R. R. Ferguson, 3923 North Keeler Avenue, Chicago, is chairman of the committee, and the tour is under the management of the Gregory Tours, Lytton Building, Chicago. This party will travel by special train, leaving Chicago, June 17, at 10 p. m., over the Rock Island lines to Colorado Springs; from there, by way of the Denver and Rio Grande and the Western Pacific to San Francisco. The party will leave San Francisco at 8 a. m., June 28, for Los Angeles and San Diego, leaving Los Angeles at 4 p. m. on the evening of June 30, returning by way of Salt Lake City and Denver, and is scheduled to reach Chicago at 7:30 a. m., July 4.

OPHTHALMOLOGIC AND OTOLARYNGOLOGIC SPECIAL

The Sections on Ophthalmology and on Larynology, Otology and Rhinology will have a special train routed over the Santa Fe. The American Laryngological, Rhinological and Otological Society meets in Chicago June 14 and 15. This special train will leave after the adjournment of this society on June 15, at 8:05 p. m., and should arrive in San Francisco, 9 p. m., June 19. The schedule permits a day at the Grand Canyon.

THE HOOSIER SPECIAL

The members of the Indiana State Medical Association and their friends from neighboring territory are planning to go to the meeting on a special train over the Burlington line, leaving Chicago, June 10, at 10 a. m., spending ten days en route, stopping at interesting points, including San Diego. The party is scheduled to reach San Francisco June 20, and to leave, June 26, by boat to Seattle, thence over the Great Northern, stopping at Glacier National Park, and arriving in Chicago on the morning of July 6.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

PROGRAM OF OPENING MEETING

Columbia Theater

Tuesday, June 22, 10:30

Music.

Call to Order. President, VICTOR C. VAUGHAN, Ann Arbor, Mich.

Invocation. BISHOP WILLIAM FORD NICHOLS, San Francisco.

Address of Welcome to California. HON. HIRAM W. JOHNSON, Governor of California.

Address of Welcome to San Francisco. HON. JAMES ROLPH, JR., Mayor of San Francisco.

Address of Welcome by the Medical Profession. H. M. SHERMAN, San Francisco, President, Medical Society of the State of California.

Introduction and Installation of President-Elect WILLIAM L. RODMAN, Philadelphia.

Address. WILLIAM L. RODMAN, President.

Music.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program nor is the list complete. The Official Program will be a pamphlet similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, also lists of committees, programs of the General Meeting and of the meetings of the House of Delegates, lists of entertainments, map of San Francisco and other information. To prevent misunderstandings and to protect the interests of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each member on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—THOMAS MCCRAE, Philadelphia.
Secretary—ROGER S. MORRIS, Clifton Springs, N. Y.

Tuesday, June 22—2 p. m.

1. Chairman's Address. THOMAS MCCRAE, Philadelphia.
2. Phenoltetrachlorphthalein Test of Liver Function; a Series of Unselected Cases (Lantern Demonstration). JAMES S. MCLESTER, Birmingham, Ala.
3. Leukemia—an Infection? Report of Cases. RAY LYMAN WILBUR, San Francisco.
4. Clinical Interpretation of the Platelet Count. W. W. DUKE, Kansas City, Mo.
5. A Clinical Contribution to Our Knowledge of Chronic Pancreatitis. MAX EINHORN, New York.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

6. Development of Immune Reactions in Serum Sickness. WARFIELD T. LONGCOPE, New York.
7. Specific Treatment of the Malignant Forms of Malaria. C. C. BASS, New Orleans.
8. Syphilis of the Stomach (Lantern Demonstration). FRANK SMITHIES, Chicago.
   Discussion to be opened by DUDLEY FULTON, Los Angeles.
9. Gastric Cancer as a Sequel to Gastric Ulcer. WILLIAM FITCH CHENEY, San Francisco.
10. Essential Factors in the Diagnosis of Duodenal and Gastric Ulcers. CHRISTOPHER GRAHAM and GEORGE EUSTERMAN, Rochester, Minn.
11. Concerning the End-Results of Gallbladder and Duct Diseases. J. A. LICHTY, Pittsburgh.

Thursday, June 24—2 p. m.

12. Chronic Nephritis, with Analysis of Two Hundred and Fifty Cases in Private Practice. W. JARVIS BARLOW and R. L. CUNNINGHAM, Los Angeles.
13. Standards of Urea Excretion (Lantern Demonstration). THOMAS ADDIS and JUNSAI WATANABE, San Francisco.
14. Botulism. An Experimental Study. ERNEST C. DICKSON, San Francisco.
15. Influence of Age and Sex on Hemoglobin. A Spectrophotometric Analysis of Nine Hundred and Nineteen Cases. CHARLES SPENCER WILLIAMSON, Chicago.
16. Prognosis in Heart Disease from the Point of View of Etiology. W. H. WITT, Nashville, Tenn.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—CHARLES H. PECK, New York.
Secretary—E. STARR JUDD, Rochester, Minn.

Tuesday, June 22—2 p. m.

1. Chairman's Address: Benign Lesions of Stomach and Duodenum, with Special Reference to Late Results. CHARLES H. PECK, New York.
2. Relation of the Duodenal Blood Supply to Operations in the Region of the Pylorus. EDWARD MARTIN, Philadelphia.
3. Chronic Gastric Ulcer. W. J. MAYO, Rochester, Minn.
4. The Relation Between Chronic Ulcer and Cancer of the Stomach. A. J. OCHSNER, Chicago.
5. Roentgenologic and Surgical Aspects of Gastro-Jejunal Ulcers. R. D. CARMAN and D. C. BALFOUR, Rochester, Minn.
6. Pulsion Diverticula of the Esophagus. ARTHUR D. BEVAN, Chicago.
7. Surgical Anatomy of Cleft Palate. J. RILUS EASTMAN, Indianapolis.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY, BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

8. Selection of Operative Cases in Chronic Intestinal Stasis. W. B. RUSS, San Antonio, Texas.
9. Ileocolostomy and Colectomy for Arthritis Deformans. REA SMITH, Los Angeles.
10. Intestinal Adhesions. W. B. BRINSMADE, Brooklyn.
11. Malignant Diseases of the Large Intestine. H. BEECKMAN DELATOUR, Brooklyn.
12. Postoperative Roentgen Studies in Gastric and Intestinal Operations. J. T. CASE, Battle Creek, Mich.
13. Combined Abdominal and Sacral Operation for Carcinoma of the Rectum. D. F. JONES, Boston.
14. The Transverse Incision in Operations for Appendicitis. A. E. ROCKEY, Portland, Ore.

Thursday, June 24—2 p. m.

15. Oration on Surgery: The Intestinal Tract. SAMUEL J. MIXTER, Boston.
16. Fascial Tubulization in Repair of Nerve Defects—an Experimental Study. DEAN D. LEWIS and E. G. KIRK, Chicago.
17. The Use of Inlay and Dowel Grafts in the Treatment of Fractures. F. H. ALBEE, New York.
18. The Suprarenal Gland in Shock. J. F. CORBETT, Minneapolis.
19. Operative Technic in Nephrolithiasis. W. E. LOWER, Cleveland.
20. Cystoscopic Methods in Ureteral Stricture and Calculus. BRANSFORD LEWIS, St. Louis.

Friday, June 25—9 a. m.

21. Roentgen-Ray Epitheliomas Curable by Radium—An Apparent Paradox. ROBERT ABBE, New York.
22. Myositis Ossificans Traumatica. C. M. SHERE, Denver.

SYMPOSIUM ON WAR SURGERY

23. Experiences in Military Surgery (Lantern Demonstration). WESLEY EARLE DRENNAN, Birmingham, Ala.
24. Surgery of Modern Naval Warfare. F. E. MCCULLOUGH, U. S. Navy, San Francisco.
25. Surgery of the Battlefield. ALEXANDER W. WILLIAMS, U. S. Army, Washington, D. C.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—THOMAS S. CULLEN, Baltimore.
Secretary—BROOKE M. ANSPACH, Philadelphia.

Tuesday, June 22—2 p. m.

1. Chairman's Address: Surgery, Gynecology and Obstetrics. THOMAS S. CULLEN, Baltimore.
2. The Relation of Gynecology to Obstetrics and to Surgery in Hospital Practice and in Teaching. WILLIAM M. POLK, New York.
3. Placental Bacteremia. J. MORRIS SLEMONS, San Francisco.
4. Abortion. E. E. MONTGOMERY, Philadelphia.
5. The Hysterogenesis of Intra-Uterine Life. HENRY O. MARCY, Boston.
6. Present-Day Results in the Treatment of Puerperal Eclampsia. GEORGE W. KOSMAK, New York.

SYMPOSIUM ON ANESTHESIA IN LABOR

7. Advantages of Nitrous Oxid Analgesia in Obstetrics Over the Freiburg Method. CARL H. DAVIS, Chicago.
8. The Appreciation and Limitations of Morphin-Scopolamin Amnesia in Obstetrics. JOHN OSBORN POLAK, Brooklyn.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

9. Tuberculosis of the Uterine Appendages. HOWARD CANNING TAYLOR, New York.
10. Application of Various Theories in the Practical Management of Peritonitis. W. D. HAGGARD, Nashville, Tenn.
11. Methods of Drainage and After-Care in Pelvic Affections. L. G. BOWERS, Dayton, Ohio.
12. Relative Frequency of Ectopic Gestation. ALFRED B. SPALDING, San Francisco.
13. Causes of Mortality in Ectopic Pregnancy and Its Relation to Immediate or Deferred Operation. ELLICE MCDONALD, New York.
14. Prognosis of Sterility. EDWARD REYNOLDS, Boston.

SYMPOSIUM ON TREATMENT OF CANCER OF THE UTERUS AND RECTUM BY RADIUM

15. Primary Results of Radium Therapy in Uterine and Rectal Cancers. HENRY SCHMITZ, Chicago.
16. Radium in the Treatment of Cervical and Vaginal Carcinoma. CURTIS F. BURNAM and HOWARD A. KELLY, Baltimore.

Thursday, June 24—2 p. m.

SYMPOSIUM ON THE EARLY HUMAN OVUM AND THE DETERMINATION OF SEX

17. Earliest Known Stages in the Development of the Human Ovum. HERBERT M. EVANS, Baltimore.
18. Determination of Sex. JAMES S. FREEBORN, Magnetawan, Ont.
19. Subinfection from Foci in the Pelvis and Abdomen. HORACE G. WETHERILL, Denver.
20. Cholecystectomy and Cholecystic Toxemia. W. WAYNE BABCOCK, Philadelphia.
21. Intestinal Obstruction. ALEXIUS MCGLANNAN, Baltimore.
22. Method of Differentiating Cancer of the Pylorus and of Increasing the Safety of Gastric Operations. GEORGE W. CRILE, Cleveland.
23. The Pylorus: Observations Noted in Association with Gastro-Intestinal Lesions. P. E. TRUESDALE, Fall River, Mass.
24. The Significance of the Fixation of Certain Abdominal Organs in the Human Body. ROBERT C. COFFEY, Portland, Ore.

SECTION ON OPHTHALMOLOGY

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—EDWARD C. ELLETT, Memphis, Tenn.
Secretary—GEORGE S. DERBY, Boston.

Tuesday, June 22—2 p. m.

1. Chairman's Address. EDWARD C. ELLETT, Memphis, Tenn.
2. Clinical Pathology of Ocular Muscle Paralysis. A Study of the Control of Ocular Muscles. WILL WALTER, Chicago.
3. Blastomycosis of the Eyelids, with Report of Cases. EDWARD JACKSON, Denver.
4. A Reaction of the Pupil, Strongly Suggestive of Arteriosclerosis with Increased Blood Pressure. MEYER WIENER and HENRY L. WOLFNER, St. Louis.
5. A Contribution to the Study of Bitemporal Hemianopsia (Lantern Demonstration). CLIFFORD B. WALKER, Boston.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

EXHIBITION OF NEW INSTRUMENTS AND APPLIANCES

6. Extraction of Birdshot from Vitreous Through Pupil. KASPER PISCHEL, San Francisco.
7. Malignant Tumors in and Around the Orbit. Starvation Method of Treatment. E. H. CARY, Dallas, Texas.
8. Sudden Blindness Due to Suppuration of the Accessory Nasal Sinuses. H. H. STARK, El Paso, Texas.
9. Oxycephalic Exophthalmos, with Traumatic Rupture of Both Eyes. RALPH A. FENTON, Portland, Ore.

Thursday, June 24—2 p. m.

10. Postoperative Detachment of the Choroid with Reference to Elliott's Operation. HANS BARKAN, San Francisco.
11. Detachment of the Retina with Preliminary Report of an Operative Procedure. EDGAR S. THOMSON and THOMAS H. CURTIN, New York.
12. Scleral Trephining for Detachment of the Retina, with Report of Eleven Cases. WALTER R. PARKER, Detroit.
13. Some Aspects of Ophthalmia Neonatorum. GEORGE S. DERBY, Boston.
14. Projectile Wounds of the Head, with Particular Reference to Wounds of the Eyes. LLOYD MILLS, Los Angeles.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—NORVAL HARVEY PIERCE, Chicago.
Secretary—FRANCIS P. EMERSON, Boston.

Tuesday, June 22—2 p. m.

1. Chairman's Address: Transvaluations. NORVAL HARVEY PIERCE, Chicago.
2. Ozena: Its Etiology and Treatment. AUSTIN A. HAYDEN, Chicago.
3. The Etiology of Ozena. HENRY HORN, San Francisco.
4. Tuberculosis of the Frontal Sinus, with Report of Two Cases. JEROME B. THOMAS, Palo Alto, Calif.
5. Frontal Sinus Suppuration with Results of Operative Procedure. HOWARD A. LOTHROP, Boston.
6. Intranasal Antrum Operations with Report of Seventy-Three Cases. HOWARD YOUNG MCNAUGHT, San Francisco.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

7. Acoustic Disturbances in the Early Stages of Lues. GEORGE H. WILLCUTT, San Francisco.
8. Labyrinthine Disease with Stigmata of Inherited Syphilis. Report of Case. HILL HASTINGS, Los Angeles.
9. Chronic Deafness: The Present Status of Its Treatment. D. HAROLD WALKER, Boston.
10. Inflammation of the Auditory Nerve. G. P. WINTERMUTE, San Francisco.
11. Operation on the Hypophysis after the Hersch Method. EDWARD C. SEWALL, San Francisco.
12. Chronic Purulent Otitis Media, with Reference to Tuberculosis. WENDELL C. PHILLIPS, New York.

Thursday, June 24—2 p. m.

13. Opening the Lachrymal Sac and Duct. An Intranasal Operation. HARRIS PEYTON MOSHER, Boston.
14. Difficulties in the Diagnosis of Sinus Thrombosis. H. S. GRAHAM, San Francisco.
15. Early Diagnosis of Mastoiditis. JOHN J. KYLE, Los Angeles.
16. Idiopathic Mastoid Abscess. VIRGINIUS DABNEY, Washington, D. C.
17. Mastoid Operations, with a Report of One Hundred and Fifty. CULLEN F. WELTY, San Francisco.
18. Defects of the Singing Voice Due to Nasal and Accessory Sinus Disease. JOHN J. MCLOONE, Phoenix, Ariz.
19. Tonsillectomy, with Analysis of Four Thousand Cases. JUSTUS A. MATTHEWS, Rochester, Minn.

SECTION ON DISEASES OF CHILDREN

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—LAWRENCE T. ROYSTER, Norfolk, Va.
Secretary—F. P. GENGENBACH, Denver.

Tuesday, June 22—2 p. m.

1. Chairman's Address: The Pediatrician and the Section on Diseases of Children. LAWRENCE T. ROYSTER, Norfolk, Va.
2. Recent Methods of Treating Diphtheria. FRANK C. NEFF, Kansas City, Mo.
3. Practical Value of the Examination of Stools in Infants. H. M. MCCLANAHAN, Omaha.
4. Epidemic Abortion Reactions in Children. J. P. SEDGWICK and W. P. LARSON, Minneapolis.
5. The Problem of Unresolved Pneumonia in Infancy and Childhood. WILLIAM PALMER LUCAS, San Francisco.
6. Conservative Versus Radical Surgical Treatment of Empyema from the Point of View of an Internist. H. LOWENBURG, Philadelphia.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

7. Craniometry in Diseases of Children. G. HARDY CLARK, Waterloo, Iowa.
8. Tuberculin Tests in Children of Colorado. GEORGE H. CATTERMOLE, Boulder, Colo.
9. Quantitative Determinations of Nitrogenous Elements in the Newborn. F. W. SCHLUTZ and C. J. PETTIBONE, Minneapolis.
10. Pneumonia in Early Life. A Clinical Study. HENRY D. CHAPIN, New York.
11. Cerebrospinal Meningitis During the Texas Epidemic of 1912. J. S. BARDIN, Fort Worth, Texas.
12. Involvement of the Urinary Tract as the Result of Focal Infections in Children. CLIFFORD G. GRULEE and F. W. GAARDE, Chicago.

Thursday, June 24—2 p. m.

13. Tonsillitis Simulating Gastric Fever. LOUIS FISCHER, New York.
14. Blood Sugar in Children. MARK JAMPOLIS, Chicago.
15. Mental and Physical Survey of Supposedly Normal Children. LANGLEY PORTER and A. HUFFAKER, San Francisco.
16. Starch Digestion in Children: with Some Clinical Observations. H. H. YERINGTON and CLYDE T. WETMORE, San Francisco.
17. Casein-Milk Feedings in Infancy and Childhood. WALTER GELLHORN, Seattle.
18. Diet and Digestion in Relation to Health and Disease in Children. A. F. BEDDOE, Dallas, Texas.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—A. J. CARLSON, Chicago.
Secretary—FREDERICK P. GAY, Berkeley, Calif.

Tuesday, June 22—2 p. m.

1. Chairman's Address: Some Problems in the Physiology and Pathology of Human Gastric Juice. A. J. CARLSON, Chicago.
2. Intestinal Obstruction: The Chemical Nature of the Toxic Agent. G. H. WHIPPLE, San Francisco.
3. The Motor Functions of the Intestine from a New Point of View. WALTER C. ALVAREZ, San Francisco.
4. Experimental Basis of the Colloid-Chemical Theory of Edema: A Criticism. A. R. MOORE, Bryn Mawr, Pa.
5. Pathologic Physiology of Lead Colic and Its Relation to Experimental Therapeutics. A. D. HIRSCHFELDER, Minneapolis.
6. Weighing Parts of the Living Body. C. D. SPIVAK, Denver.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

7. Creatin and Creatinin Excretion During the Puerperium and Its Relation to the Involution of the Uterus. ARTHUR H. MORSE, San Francisco.
8. Metabolism in Diabetes as Shown in Three Hundred Cases of Acetonemia. A. J. HODGSON, Waukesha, Wis.
9. Globulin and Albumin Percentage Determination in Small Quantities of Blood Serum. T. BRAILSFORD ROBERTSON, Berkeley, Calif.
10. Examination of Some of the Indirect Blood Pressure Principles. JOSEPH ERLANGER, St. Louis.
11. Estimation of Carbon-Dioxid Tension in Alveolar Air. PAUL ROTH, Battle Creek, Mich.
12. A New Classification of Tumors. WILLIAM CARPENTER MACCARTY, Rochester, Minn.

Thursday, June 24—2 p. m.

13. Tumors of the Spinal Cord in Children. RACHEL L. ASH, San Francisco.
14. The Relation of Animal to Human Sporotrichosis. K. F. MEYER, San Francisco.
15. Efficiency of Various Antityphoid Vaccines. W. A. SAWYER, Berkeley, Calif.
16. Laboratory Diagnosis of Smallpox by Skin Reaction. JOHN NIVISON FORCE, Berkeley, Calif.
17. Nephritis: A New Series of Cases. WILLIAM OPHULS, San Francisco.
18. Atheroma and Other Lesions Produced in Rabbits by Cholesterol Feeding. C. H. BAILEY, San Francisco.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—FRANCIS X. DERCUM, Philadelphia.
Secretary—GEORGE A. MOLEEN, Denver.

Tuesday, June 22—2 p. m.

1. Chairman's Address: Recent Aspects of Nervous and Mental Pathology. FRANCIS X. DERCUM, Philadelphia.

2. Objective Psychology and Psychopathology with Subordination of the Medically Useless Contrast of Mental and Physical. ADOLF MEYER, Baltimore.
3. Delusions of Persecution as a Biologic Defense Reaction. CHARLES LEWIS ALLEN, Los Angeles.
4. Serviceable Psychology. MARY LAWSON NEFF, Des Moines.
5. Traumatic Hysteria. J. T. FISHER, Los Angeles.
6. Cooperation in the Treatment of Nervous Maladies. J. MADISON TAYLOR, Philadelphia.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

7. Myatonia Congenita. W. A. JONES, Minneapolis.
8. Chronic Tetany with Report of Case. J. P. MUNROE, Charlotte, N. C.
9. The Diagnosis of Tumors in the Posterior Cranial Fossa. T. H. WEISENBURG, Philadelphia, and PHILIP WORK, Pueblo, Colo.
10. Cerebellar Tumor Without Nystagmus. ERNEST G. GREY, Boston.
11. Galvanometric Studies of the Cerebellar Function. I. LEON MEYERS, Chicago.
12. Focal Disease of the Brain with Report of Eight Cases. CHARLES R. BALL, St. Paul.
13. The Voice in Tabes and Treatment for Vocal Ataxia. WALTER B. SWIFT, Boston.

Thursday, June 24—2 p. m.

14. Familial Spastic Paralysis. JOHN H. W. RHEIN, Philadelphia.
15. Acute Ascending Hemorrhagic Myelitis. BENJAMIN T. BURLEY, Worcester, Mass.
16. The Transverse Myelitic Type of Poliomyelitis. JAMES HENDRIE LLOYD, Philadelphia.
17. Spinal Cord Compression from Leptomeningeal Cysts. With Report of Two Cases. A. L. SKOOG, Kansas City, Mo.
18. Salvarsanized Serum in Syphilitic Nervous Disease. C. EUGENE RIGGS, St. Paul.
19. Treatment of Essential Epilepsy by Subcutaneous Injections of Cerebrospinal Fluid. ALFRED GORDON, Philadelphia.
20. Testing Muscular Tonus or Reflex Excitability in the Upper Extremity. ROSS MOORE, Los Angeles.

SECTION ON DERMATOLOGY

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—HOWARD FOX, New York.
Secretary—H. H. HAZEN, Washington, D. C.

Tuesday, June 22—2 p. m.

1. Chairman's Address: Dermatology of the Ancients. HOWARD FOX, New York.
2. An Uncommon Case of Multiple Sarcoid of the Skin. JOSEPH ZEISLER, Chicago.
3. The Treatment of Burns. A. RAVOGLI, Cincinnati.
4. Symptomatology and Treatment of Some Common Palmar Eruptions. RICHARD L. SUTTON, Kansas City, Mo.
5. Recurrent Herpes, with Report of Case and Considerations Concerning the Etiology. WILLIAM THOMAS CORLETT, Cleveland.
6. Lupus Erythematosus of the Mucous Membranes. GEORGE D. CULVER, San Francisco.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

SYMPOSIUM ON LEPROSY

7. Historical Review of Leprosy. DOUGLASS W. MONTGOMERY, San Francisco.
8. Symptomatology and Diagnosis of Leprosy: Presentation of Cases. HOWARD MORROW, San Francisco.
9. Treatment of Leprosy. ERNEST DWIGHT CHIPMAN, San Francisco.
10. Public Control of Lepers. A. A. O'NEILL, San Francisco.
11. Demonstration of Cases from the Skin Clinic of the Stanford University Medical School. HARRY E. ALDERSON, San Francisco.
12. Intraspinous Treatment of Syphilis of the Nervous System. Results of Two Years' Experience. R. B. H. GRADWOHL, St. Louis.

Thursday, June 24—2 p. m.

13. Factitious Dermatoses. OLIVER S. ORMSBY, Chicago.
14. Acanthosis Nigricans as an Indication of Internal Malignancy. A. J. MARKLEY, Denver.
15. Xeroderma Pigmentosum: Its Treatment with Autogenous Serum. J. B. KESSLER, Iowa City.
16. Cutaneous Cancer of the Extremities. H. H. HAZEN, Washington, D. C.
17. The Present Status of the Roentgen Ray in the Treatment of Diseases of the Skin. GEORGE MILLER MACKEE, New York.
18. Radiant Energy in the Treatment of Diseases of the Skin. EVERETT S. LAIN, Oklahoma City.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—C. HAMPSON JONES, Baltimore.
Secretary—OTTO P. GEIER, Cincinnati.

Tuesday, June 22—2 p. m.

1. Chairman's Address and Oration. C. HAMPSON JONES, Baltimore.
2. The Nature, Treatment and Prevention of Pellagra. JOSEPH GOLDBERGER, Washington, D. C.; D. G. WILLETS, Milledgeville, Ga., and C. H. WARING, Jackson, Miss., United States Public Health Service, Washington, D. C.
3. A Plague-Like Disease of California Rodents, Affecting Man (Demonstration of Specimens). WILLIAM B. WHERRY, Cincinnati.
4. The Full-Time Health Officer. JOHN W. KERR, Washington, D. C.
5. The Relation of Mouth Infection to Some of the Common System Diseases of Obscure Origin. JOHN R. WILLIAMS, Rochester, N. Y.

Reports of Committees

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

SYMPOSIUM ON INDUSTRIAL SANITATION

6. Introductory Remarks: Industrial Sanitation—The New Factor in Public Health. OTTO P. GEIER, Cincinnati.
7. Physical Examination of Employees. SIDNEY MORRILL MCCURDY, Youngstown, Ohio.
8. The Control of Tuberculosis by Industry. GEORGE M. PRICE, New York.
9. Occupations and the Venereal Diseases. WILLIAM F. SNOW, New York.
10. Sickness Insurance. B. S. WARREN, Washington, D. C.

Thursday, June 24—2 p. m.

11. Some Medical Aspects of the Open-Air School. SHERMAN C. KINGSLEY, Esq., Chicago.
12. The Administration and Control of Communicable Diseases by a City Health Department. WILLIAM C. HASSLER, San Francisco.
13. The Favorable Influence of Glucose on the Growth of Acid Fasts. GEORGE W. MCCOY, Honolulu, T. H.
14. The Relation of Rodent Plague to Human Infection. W. C. RUCKER, Washington, D. C.
15. Significance and Prevention of Amebic Infections in Mouths of Children. ANNA WESSELS WILLIAMS, New York.

SECTION ON GENITO-URINARY DISEASES

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—Granville MacGowan, Los Angeles.
Secretary—Louis E. Schmidt, Chicago.

Tuesday, June 22—2 p. m.

1. Prostatectomy, Mistakes and Failures. George S. Whiteside, Portland, Ore.
2. Clinical Observations on Stone in the Bladder. W. F. Braasch and A. B. Moore, Rochester, Minn.
3. Plastic Operations on Ureters and Kidney Pelves. Hiram R. Loux, Philadelphia.
4. An Entero-Ureteral Operation. W. Howard Barber, New York.
5. Stone in the Ureter: A Critical Review of Cases. Hugh Cabot, Boston.
6. Supernumerary Kidney: Report of Case with Operation. Herman L. Kretschmer, Chicago.
7. Urinary Antisepsis: A Clinical and Bacteriologic Study. Frank Hinman, San Francisco.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

8. Effect of Trauma on the Genito-Urinary Tract. Lewis Wine Bremerman, Chicago.
9. Diagnosis of Genito-Urinary Conditions in Women by Means of the Roentgen Ray. G. Sherman Peterkin, Seattle.
10. Electro-Mechanical Treatment in Genito-Urinary Diseases. William B. Snow, New York.
11. Blood Cryoscopy and Blood Urea: A Comparative Study of Renal Function. Martin Krotoszyner and George W. Hartman, San Francisco.
12. Destroying Limited Obstructive Glandular Growths in the Posterior Urethra by the High Frequency Current. Robert V. Day, Los Angeles.
13. Importance of Thorough Examination in Urologic Cases. A. J. Crowell, Charlotte, N. C.

Thursday, June 24—2 p. m.

14. Chairman's Address: Granville McGowan, Los Angeles.
15. Vaccines in Gonococcus Infections. Carl C. Warden, Ann Arbor, Mich.
16. The Mechanism of Urination. Arthur B. Cecil, Los Angeles.
17. Nephritis. Philip King Brown, San Francisco.
18. Verumontanitis. W. J. Pennock, Spokane, Wash.

SECTION ON HOSPITALS

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—Winford H. Smith, Baltimore.
Secretary—John A. Hornsby, Chicago.

Tuesday, June 22—2 p. m.

1. Chairman's Address. Winford H. Smith, Baltimore.

SYMPOSIUM ON VENEREAL DISEASES

2. Efficient Dispensary Clinics a Requisite for Adequate Coping with Venereal Disease. Michael M. Davis, Jr., Boston.
3. The Control of Venereal Diseases in California. Robert T. Legge, Berkeley, Calif.
4. The Problem of Venereal Disease Quackery. Calvin S. White, Portland, Ore.
5. Venereal Disease Clinics in New York and a Statistical Efficiency Test. Robert J. Wilson, New York.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

6. Medical Teaching in Hospitals. H. T. Summersgill, San Francisco.
7. The Efficiency Standard at St. Joseph's Hospital, Philadelphia. Joseph M. Spellissy, Philadelphia.

Thursday, June 24—2 p. m.

8. Important Elementary but Often Neglected Details in the Administration of Small Hospitals. L. W. Littig, Davenport, Iowa.
9. Hospital Efficiency as Produced and Measured by a Follow-Up System. Arthur A. Howard, Boston.
10. The Relation of the Roentgenologist to the Hospital. H. W. Van Allen, Springfield, Mass.
11. The Experience of Lakeside Hospital in the Manufacture and Administration of Nitrous Oxid for Anesthesia. A. R. Warner, Cleveland.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN EXPOSITION MEMORIAL AUDITORIUM

Chairman—Nathaniel Allison, St. Louis.
Secretary—Emil S. Geist, Minneapolis.

Tuesday, June 22—2 p. m.

1. Chairman's Address: Orthopedic Surgery and the Crippled. Nathaniel Allison, St. Louis.
2. Late Results of Excision of the Transverse Process of the Fifth Lumbar Vertebra. Fred J. Fassett, Seattle.
3. Lesions of the Lumbo-Sacro-Iliac Region. H. L. Langnecker, Boston.
4. Surgical Treatment of Bunions (Mayo Method). M. S. Henderson, Rochester, Minn.
5. Anteversion of Neck of Femur Causing Failure in Treating Congenital Hip Dislocation. Russell A. Hibbs, New York.
6. Congenital Dislocations of the Hip, Reduced by Manipulation Followed by Arthrotomy. James T. Watkins, San Francisco.
7. Structural Changes in Congenital Hip Dislocations. Wallace Blanchard, Chicago.

Wednesday, June 23

THIS SECTION WILL HOLD NO MEETING ON THIS DAY BUT WILL JOIN IN THE COMMEMORATION DAY PROGRAM

Thursday, June 24—9 a. m.

8. Painful Feet. Henry W. Frauenthal, New York.
9. Experimental Studies on Neuropathic Affections of the Joints (Charcot's). Leo Eloesser, San Francisco.
10. Roentgenographic Characteristics of the Bone Changes in Rickets. Robert W. Lovett, Boston.
11. Subperiosteal Resections in Osteomyelitis. An Experimental and Clinical Study. D. B. Phemister, Chicago.
12. Tuberculosis and Red Marrow. Leonard W. Ely, San Francisco.
13. End Results After Arthroplasty. John B. Murphy, Chicago.

Thursday, June 24—2 p. m.

14. Knee Joint Disability Caused by Hypertrophy of the Alar Ligaments. Roland O. Meisenbach, Buffalo.
15. Treatment of Fractures of Long Bones from an Orthopedic Point of View, with Clinical Observations and Conclusions. J. W. Cokenower, Des Moines, Iowa.
16. Fractures—New Ideas and New Instruments. H. R. Allen, Indianapolis.
17. Syphilis of the Spine. Walter Baldwin, San Francisco.
18. Experimental Transplantation of the Epiphysis with Observations on the Longitudinal Growth of Bone. S. L. Haas, San Francisco.
19. Juvenile Osteochondritis of the Hip Joint—Report and Exhibition of Three Patients. George J. McChesney, San Francisco.
20. Rôle of the Nose, Throat and Accessory Sinuses in Etiology of Chronic, Infectious Arthritis. Roland Hammond, Providence, R. I.

THE SCIENTIFIC EXHIBIT AND HEALTH CONSERVATION DAY

The Board of Trustees has enlarged the scope of the Scientific Exhibit by adding a Health Conservation Exhibit with special and striking features. These two exhibits are more or less related, but are announced under separate headings.

I. THE SCIENTIFIC EXHIBIT

Special effort will be made to correlate the work of the sections with that of the Scientific Exhibit. There has been a gradual evolution in this direction, but it is hoped this year to hasten this desirable end. Every subject which lends itself to scientific demonstration will be more lucidly presented if its author will prepare an exhibit. Such exhibits are in themselves evidence of the writer's enthusiasm and faith in his work. To hearers, they are a satisfaction, making clear written claims, and stimulating attention in the matter presented.

The increase, year by year, of research exhibits at the annual meetings has been most gratifying. This year, particularly, laboratory workers engaged in original investigations should plan demonstrations for the meeting. The journey to the coast will be worth while, and they will be inspired by those engaged in similar work in the Far West. Bring small exhibits, pictures, charts, microscopic and gross specimens. These can generally be carried in a suitcase, or checked through as baggage. The Scientific Exhibit affords the investigator an opportunity to present the proofs of his research. The Association Gold Medal for the best research exhibit will be awarded, or if the winner so elects, he may have instead, a cash award. A limited number of Certificates of Honor will be given to a few particularly meritorious exhibits.

II. THE HEALTH CONSERVATION EXHIBIT

All section meetings will be adjourned on Wednesday of the meeting week, and the entire day devoted to "Health Conservation Day." The program will be given in the Exposition Memorial Auditorium. During the forenoon there will be formal addresses by Dr. Victor C. Vaughan, President of the American Medical Association, on "Infection and Immunity"; by Dr. W. C. Gorgas, Surgeon-General of the U. S. Army, on "Yellow Fever"; by Dr. W. J. Mayo, of Rochester, Minn., on "Cancer: Its Prevention and Cure"; and by Dr. W. A. Pusey, of Chicago, on "Syphilis as a Modern Problem." In the afternoon, the two large convention halls will be given over to short talks by well-known experts, accompanied by lantern-slide and motion-picture illustrations of the following topics: malaria, dysentery, yellow fever, typhoid fever, plague, hookworm, leprosy, tuberculosis, syphilis, gonorrhea, pellagra, rabies, epidemic cerebrospinal meningitis, poliomyelitis, pyorrhea alveolaris and trypanosomiasis.

ILLUSTRATIVE EXHIBITS

At the same time that these lectures are being given in the convention halls, demonstrators will present exhibits in the corridors on the ground floor of the Auditorium, illustrating the subjects enumerated above. The talks given and the exhibits will not be of the conventional public health type. There will be shown enough of the historical and the scientific by lantern slides, charts, pictures, specimens and by other means, to make plain both to physicians and the laity the achievements of medicine in the broader scientific sense, and their relation to the prevention of disease. It is to be a triumphant and illuminating declaration to the world of its debt to scientific medicine for social, economic and humanitarian progress. In the consummation of this unusual program, the committee relies with confidence on those who are interested and active in the advancement of preventive medicine, and invites them to give freely of their expert aid in the staging and presentation of these features. The committee again requests scientific and public health workers to cooperate by exhibiting the materials necessary to illustrate, on a scientific basis, the evolution of preventive medicine to its present day practical and useful position. The committee will appreciate the active support of those interested in these great problems.

SUGGESTIONS TO PROSPECTIVE EXHIBITORS

Those preparing Roentgen-ray exhibits should communicate at once with Dr. P. M. Hickey, 32 Adams Avenue, West, Detroit, giving the subject to be treated, and the number and size of plates.

Shipments of exhibits should be addressed to "The Scientific Exhibit of the American Medical Association, Memorial Auditorium Building, care of Dr. William Ophuls, San Francisco. In addition, write Dr. Ophuls, northeast corner of Sacramento and Webster streets, at the time of shipment.

SAN FRANCISCO INFORMATION

MEETING PLACES AND HOTEL HEADQUARTERS

Letters refer to the map. All meetings of the House of Delegates and the Scientific Assembly, except the General Meeting, are held in the Exposition Memorial Auditorium.

HOUSE OF DELEGATES: Exposition Memorial Auditorium (A)—Fourth floor, west wing.

GENERAL MEETING: Columbia Theater (M).

SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, COMMERCIAL EXHIBIT, INFORMATION BUREAU, TELEPHONES AND BRANCH POSTOFFICE: Exposition Memorial Auditorium (A).

SECTIONS, HOTEL HEADQUARTERS AND MEETING PLACES

PRACTICE OF MEDICINE: Palace Hotel (B)—First floor, east wing.

SURGERY, GENERAL AND ABDOMINAL: St. Francis (C)—First floor, west wing.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY: St. Francis (C)—Third floor, west wing, south room.

OPHTHALMOLOGY: Fairmont (D)—Third floor, east wing, south room.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Fairmont (D)—Third floor, east wing, middle room.

DISEASES OF CHILDREN: Cartwright (J)—Third floor, west wing, middle room.

PATHOLOGY AND PHYSIOLOGY: Bellevue (H)—Second floor, west end north corridor.

NERVOUS AND MENTAL DISEASES: Chancellor (I)—Fourth floor, east end north corridor.

DERMATOLOGY: Plaza (L)—Fourth floor, east wing, south room.

PREVENTIVE MEDICINE AND PUBLIC HEALTH: Clift (G)—Third floor, east end north corridor.

GENITO-URINARY DISEASES: Manx (E)—Third floor, west end north corridor.

HOSPITALS: Inside Inn (K)—Fourth floor, east wing, north middle room.

ORTHOPEDIC SURGERY: Stewart (F)—Fourth floor, east wing, south middle room.

HOTEL RESERVATIONS

Although San Francisco can easily accommodate those in attendance on the annual session, Fellows are urged to make their hotel reservations early. It will be a great comfort on arriving at San Francisco to go at once to a hotel which is expecting you rather than to make a round of hotels, finding a number of them completely filled and finally being compelled to take the first lodgings which can be found in a hurried personal search. The list of hotels appearing in this issue locates the different hotels and gives their rates. Make your selection, write to Dr. F. B. Carpenter, chairman of the sub-committee on hotels of the local Committee on Arrangements, or the official Exposition Hotel Bureau, with which the committee on hotels is cooperating, addressing your letter in either instance to 702 Market Street, San Francisco. Take the reply you receive with you to San Francisco. Then, on arriving all you will have to do is to go to this hotel and register. In requesting a hotel reservation, be sure to state your full name and home address, the date you expect to reach San Francisco, the number in your party, the number of rooms required, the rate per day—per person, per room—you are willing to pay, the hotel you prefer—if any, and the section in which you will register.

TABLE OF DAILY RATES AND ACCOMMODATIONS OFFERED BY SAN FRANCISCO HOTELS

Hotel and Location*	No. Rooms	Without Bath		With Bath	
		One Person	Two Persons†	One Person	Two Persons†
NEAR CENTER OF BUSINESS SECTION					
PALACE.....Market and New Montgomery	500	$2.00 to $2.50	$3.50 to $4.00	$3.00 to $7.00	$5.00 to $10.00
ST. FRANCIS.....Powell and Geary	1,000	2.00 to 4.00	3.50 to 7.00	3.00 to 6.00	5.00 to 10.00
FAIRMONT.....Mason and California Also American plan.	500	.....	.....	4.00 to 7.00	7.00 to 10.00
BELLEVUE.....Geary and Taylor Also American plan—add $2 a person.	244	.....	.....	4.00 to 6.00	5.00 to 7.00
CHANCELLOR.....Powell and Post Also American plan.	138	.....	.....	2.50 to 4.00	4.00 to 6.00
CARTWRIGHT.....Sutter and Powell	117	.....	.....	2.00 to 5.00	2.50 to 6.50
CLIFT.....Geary and Taylor Also American plan—add $2.50 a person.	300	.....	.....	2.50 to 4.00	4.00 to 6.00
MANX.....Powell and O'Farrell	258	2.00 to 3.00	3.00 to 4.00	2.00 to 3.00	4.00 to 5.00
PLAZA.....Post and Stockton Also American plan—add $2 a person.	282	1.50 to 2.00	2.50 to 4.50	2.00 to 6.00	3.50 to 7.00
STEWART.....Geary and Powell Also American plan—add $2 a person.	250	2.00 to 3.00	3.50 to 4.00	2.50 to 4.00	4.00 to 6.00
DALE.....34 Turk	180	1.50 to 2.00	2.00 to 3.00	3.00 to 4.00	4.00 to 5.00
RAMONA.....174 Ellis	110	.....	.....	2.00 to 4.00	3.00 to 5.00
ARGONAUT.....Fourth and Market	380	2.00 to 3.00	2.00 to 3.00	3.00 to 5.00	4.00 to 5.00
CLARK.....Eddy and Taylor	140	1.50 to 2.50	2.50 to 3.50	2.50 to 3.50	4.00 to 5.00
GLENN.....Turk and Market	84	1.00 to 1.50	1.50 to 2.00	2.50 to 3.00	3.00 to 4.00
GRAND.....57 Taylor	160	1.50 to 2.50	2.00 to 3.00	2.50 to 3.50	3.00 to 4.50
KNICKERBOCKER.....589 Post	50	1.00 to 2.00	2.00 to 2.50	$2.50	$3.50
LEESMONT.....California and Stockton	75	.....	.....	2.50 to 3.50	3.50 to 4.50
MARTINIQUE.....737 Bush	50	.....	.....	2.50 to 4.00	3.50 to 5.00
MONTCLAIR.....995 Pine	75	1.50 to 2.00	2.00 to 3.00	2.50 to 3.50	3.00 to 4.50
REGENT.....562 Sutter Also American plan—add $1.50 a person.	115	1.50 to 2.00	2.00 to 3.00	2.50 to 5.00	4.00 to 7.00
ST. DOMINIC.....Bush and Jones	100	.....	.....	2.50 to 3.00	3.00 to 4.00
WORTH.....641 Post	96	.....	.....	2.50 to 3.00	3.50 to 4.00
ZENOBIA.....947 Bush	50	.....	.....	2.50 to 3.00	3.00 to 5.00
ADENA.....144 O'Farrell	100	1.00 to 1.50	1.50 to 2.00	2.00 to 2.50	2.50 to 3.00
ALHAMBRA.....860 Geary	50	1.50 to 3.50	2.50 to 5.00	2.00 to 5.00	5.00 to 8.00
BALDWIN.....Grant and Sutter	65	.....	.....	2.00 to 4.00	2.50 to 4.50
BRAYTON.....50 Turk	100	1.00 to 2.50	1.50 to 3.00	2.00 to 3.50	2.50 to 4.00
CARSON.....972 Market	28	1.50 to 2.00	2.00 to 2.50	2.00 to 2.50	3.00 to 3.50
CLARIDGE.....749 Taylor	30	1.50 to 2.00	2.00 to 2.50	2.00 to 2.50	2.50 to 3.00
CORNELL.....715 Bush	50	1.00 to 1.50	2.00 to 2.50	2.00 to 3.00	3.00 to 4.00
CORT.....34 Ellis	60	1.00 to 2.00	2.00 to 2.50	2.00 to 3.00	2.50 to 3.50
COURT.....Bush and Stockton Also American plan—add $2 a person.	128	1.00 to 4.00	1.50 to 5.00	2.00 to 6.00	2.50 to 7.00
EUREKA.....438 O'Farrell	35	1.00 to 1.50	1.50 to 2.00	2.00 to 2.50	2.00 to 2.50
GARFIELD.....354 O'Farrell Also American plan.	60	.....	.....	2.00 to 3.50	3.00 to 5.00
GARLAND.....O'Farrell and Jones	80	.....	.....	2.00 to 3.50	3.00 to 5.00
GOLDEN WEST.....Powell and Ellis	100	1.50 to 2.50	2.00 to 3.50	2.00 to 3.00	2.50 to 4.00
GOODFRIEND.....Powell and Geary	150	1.50 to 3.00	2.00 to 3.50	2.00 to 5.00	2.50 to 6.00
GRAYSTONE.....66 Geary	85	1.50 to 2.50	2.00 to 3.50	$3.00	$4.00
HACIENDA.....580 O'Farrell	73	1.50 to 2.00	2.00 to 2.50	2.00 to 2.50	2.50 to 3.00
HERALD.....Eddy and Jones	150	1.50 to 2.00	2.00 to 3.00	2.00 to 3.00	3.00 to 4.00
KENSINGTON.....Geary and Jones	90	1.50 to 2.00	2.00 to 2.50	2.00 to 3.00	3.00 to 4.00
KEYSTONE.....Fourth and Market	100	1.00 to 2.00	2.00 to 3.00	2.00 to 3.00	3.00 to 4.00
LANKERSHIM.....Fifth near Market	300	1.50 to 2.00	2.00 to 3.00	2.00 to 4.00	2.50 to 5.00
MAXWELL.....625 Taylor	40	1.00 to 2.00	1.50 to 2.00	2.00 to 2.50	2.50 to 3.00
MENTONE.....Ellis at Jones	80	.....	.....	2.00 to 3.00	3.00 to 5.00
SCHWARTZ.....62 Turk near Market Also American plan.	100	1.00 to 1.50	1.50 to 2.50	2.00 to 3.50	3.00 to 4.00
STANFORD.....Bush and Kearny	150	1.50 to 2.00	2.00 to 2.50	2.00 to 2.50	3.00 to 3.50
STRAND.....415 O'Farrell	100	1.00 to 1.50	1.50 to 2.50	2.00 to 2.50	3.00 to 3.50
SUSSEX.....701 Sutter	65	1.50 to 3.00	2.00 to 3.50	2.00 to 4.00	2.50 to 5.00
ST. ANDREW.....440 Post	50	1.00 to 2.00	1.50 to 2.50	2.00 to 2.50	2.50 to 3.00
THOMA.....Stockton and Post	90	1.50 to 2.00	2.00 to 2.50	2.00 to 3.00	3.00 to 4.00
TOWANDA.....556 Jones	41	.....	.....	2.00 to 3.00	2.50 to 4.00
TURPIN.....17 Powell at Market	195	1.50 to 2.00	2.00 to 4.00	2.00 to 3.00	3.00 to 6.00
VICTORIA.....Bush and Stockton Also American plan.	150	1.50 to 2.00	2.00 to 2.50	$2.00	$2.50
VON DORN.....242 Turk	150	1.50 to 2.00	2.00 to 2.50	2.00 to 3.00	3.00 to 4.00
WINDEMERE.....776 Bush	100	.....	.....	2.00 to 3.00	2.50 to 3.50
YUBA.....1146 Mission	150	1.00 to 1.50	1.50 to 2.00	2.00 to 3.00	$3.00
ADAIRE.....Ellis near Jones	187	1.00 to 1.50	.....	1.50 to 3.00	2.50 to 4.00
ADRAIN.....493 Eddy near Hyde	50	1.00 to 1.50	1.50 to 2.50	1.50 to 2.00	2.50 to 3.50
ALTA.....165 Third	225	1.00 to 2.00	1.50 to 2.00	1.50 to 2.50	2.50 to 3.00
ARLINGTON.....Ellis and Leavenworth Also American plan—add $1.50 a person.	160	1.00 to 2.00	1.50 to 2.00	1.50 to 3.50	2.50 to 4.00
ATHMORE.....450 Jones	47	1.00 to 1.50	1.50 to 2.00	1.50 to 2.50	2.50 to 3.50
AVON.....420 Jones, corner Ellis	24	1.00 to 1.50	1.50 to 2.00	1.00 to 1.50	1.50 to 2.00
BERESFORD.....Mason and Sutter	120	1.00 to 2.00	1.50 to 2.50	1.50 to 3.50	2.00 to 4.00
BERG.....221 Mason	75	.....	.....	1.50 to 2.50	2.50 to 4.00
DUMAS.....O'Farrell at Taylor	50	1.00 to 1.50	1.50 to 2.00	1.50 to 2.50	2.50 to 5.00
GRANT.....Bush and Powell Also American plan—add $1.25 a person.	60	.....	.....	1.50 to 2.50	2.50 to 5.00
HAMLIN.....338 Eddy	85	1.00 to 2.00	2.00 to 3.00	1.50 to 2.50	2.50 to 4.00
HANSA.....447 Bush	47	1.00 to 1.50	1.50 to 2.00	1.50 to 2.50	2.50 to 3.00
KING GEORGE.....Mason at Geary	140	.....	.....	1.50 to 3.50	2.00 to 5.00
IRWIN.....Fourth and Mission	150	0.75 to 1.50	1.50 to 2.00		
MADISON.....364 O'Farrell	65	.....	.....	1.50 to 3.00	2.50 to 5.00
MARYMOUNT.....Jones and O'Farrell	100	1.00 to 2.00	1.50 to 2.00	1.50 to 3.00	2.00 to 3.00
MINSTER.....Mason and O'Farrell	135	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	2.00 to 3.00
RAND.....364 Eddy	82	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	2.50 to 3.00
RITZ.....216 Eddy	100	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	2.00 to 3.00
SEQUOIA.....Jones and O'Farrell	75	1.00 to 2.00	1.50 to 2.50	1.50 to 2.50	2.00 to 3.50
SENATE.....471 Turk	100	1.00 to 2.00	2.00 to 3.00	1.50 to 4.00	2.50 to 5.00
SHASTA.....314 Kearny	100	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	$2.00
ST. CECILE.....115 Fell, near Van Ness	60	1.00 to 1.50	1.50 to 2.00	2.00 to 2.50	2.50 to 3.00
TALLAC.....140 Ellis	144	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	2.50 to 3.50
THOMAS.....969 Mission	160	1.00 to 1.50	1.50 to 2.50	1.50 to 2.50	2.00 to 3.50
WINDSOR.....238 Eddy	110	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	2.00 to 3.00
STRATTON.....570 O'Farrell	40	1.00 to 1.50	$2.00		

Hotel and Location*	No. Rooms	Without Bath		With Bath	
		One Person	Two Persons†	One Person	Two Persons†
NEAR CIVIC CENTER (Near Auditorium where the Scientific Assembly of the Association will be held)					
ATLANTA.....Seventh and Mission	160	1.00 to 2.00	1.50 to 3.00	2.00 to 3.00	$3.00
BELMONT.....730 Eddy	95	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	2.00 to 2.50
CADILLAC.....Eddy and Leavenworth Also American plan—add $1.50 a person.	115	1.00 to 1.50	1.50 to 2.00	1.50 to 2.50	2.50 to 3.50
CARLTON.....545 Turk Also American plan—add $1.50 a person.	150	1.50 to 2.00	2.00 to 3.00	2.00 to 3.00	2.50 to 3.50
EASTMAN.....1668 Market	38	1.00 to 1.50	1.50 to 3.00	2.00 to 3.00	2.00 to 5.00
ESSEX.....Ellis and Larkin	100	1.00 to 1.50	1.50 to 2.50	2.00 to 3.00	3.00 to 4.00
FALLON.....1693 Market	65	1.00 to 1.50	1.50 to 3.00	2.00 to 3.00	2.00 to 5.00
GLASGOW.....Turk and Larkin	75	1.00 to 2.00	1.50 to 2.50	2.00 to 3.00	2.50 to 3.50
GRAND CENTRAL.....1412 Market	100	1.00 to 2.50	1.50 to 3.50	2.50 to 4.00	3.50 to 5.00
PAGE.....161 Leavenworth	36	1.00 to 1.50	1.50 to 2.00	1.50 to 2.50	2.50 to 3.50
SENECA.....Sixth and Stevenson	200	1.00 to 1.50	1.50 to 2.50	1.50 to 2.50	2.50 to 3.50
ST. JAMES.....Van Ness and Fulton	150	1.00 to 2.00	1.50 to 2.50	2.00 to 3.00	3.00 to 4.00
BROWNELL.....335 Larkin	50	1.00 to 2.00	1.50 to 2.50		
CALVIN.....421 Leavenworth	40	.....	.....	1.00 to 1.50	2.00 to 2.50
GRANVILLE.....Market and Eighth	25	1.00 to 2.00	2.00 to 2.50		
IN RESIDENCE DISTRICT (About Midway Between Civic Center and Exposition Grounds)					
GRANADA.....Sutter and Hyde Also American plan—add $2 a person.	200	2.00 to 3.00	3.00 to 4.00	3.00 to 4.00	4.00 to 5.00
RICHELIEU.....Van Ness and Geary American plan.	150	.....	.....	3.50 to 6.00	6.00 to 9.00
NORMANDIE.....1499 Sutter Also American plan—add $2 a person.	200	1.50 to 2.50	2.00 to 4.00	2.00 to 4.00	3.00 to 5.00
BAKER.....1485 Pine	60	1.00 to 2.00	2.00 to 2.50	2.00 to 4.00	3.50 to 5.00
BALTIMORE.....Van Ness and Geary Also American plan—add $1.50 a person.	90	1.00 to 2.00	1.50 to 3.00	1.50 to 2.50	2.00 to 3.00
BEATTIE.....1849 Jackson Also American plan—add $2 a person.	25	$1.50	$2.00	$2.00	$3.00
BLENHEIM.....1504 Franklin	29	0.75 to 1.50	1.50 to 2.50	1.00 to 1.50	2.00 to 2.50
MONROE.....Sacramento and Franklin Also American plan—add $2 a person.	94	1.50 to 2.00	2.00 to 2.50	2.00 to 3.00	3.00 to 4.00
CALIFORNIA.....Hyde and California Also American plan—add $2 a person.	50	1.00 to 1.50	1.50 to 2.50	2.00 to 3.00	3.00 to 4.00
DORCHESTER.....Sutter and Gough Also American plan—add $2 a person.	90	1.00 to 1.50	1.50 to 2.00	2.00 to 2.50	2.50 to 5.00
DOREL.....California and Larkin	24	1.50 to 2.00	2.00 to 2.50	2.00 to 2.50	2.50 to 3.50
EXPOSITION INN.....California and Pierce	110	$1.00	$1.50		
HARCOURT.....Sutter and Larkin Also American plan—add $2 a person.	85	1.00	1.50	1.50	2.50
HILLCREST.....California and Jones Also American plan—add $2 a person.	90	.....	.....	1.50 to 2.50	2.00 to 3.00
MARTINET.....1103 Geary	36	1.00 to 1.50	1.50 to 2.00		
POLK.....Polk and Turk	40	1.50 to 2.00	2.00 to 2.50	2.00 to 2.50	3.00 to 3.50
ROSEMONT.....214 Haight Kitchenettes $1 additional.	40	1.00 to 1.50	2.00 to 3.00	2.00 to 3.00	3.00 to 4.00
ST. DUNSTAN.....1315 Polk	50	1.00 to 1.50	1.50 to 2.00	2.00 to 2.50	2.50 to 3.50
ST. MARCHIA.....875 Post	50	$1.50	$2.00	$1.50	$2.00
VAN NESS.....Van Ness and Pacific	53	1.00 to 1.50	1.50 to 2.00	1.50 to 2.00	2.00 to 2.50
VENDOME.....Polk and Washington	45	2.00 to 2.50	2.50 to 3.00	3.00 to 3.50	3.50 to 4.50
VOORHEIS.....Van Ness near Sutter	41	1.00 to 1.50	1.50 to 2.50	2.00 to 2.50	2.50 to 3.50
YORKE.....California and Larkin Also American plan—add $2 a person.	80	1.50 to 2.00	2.00 to 3.00	1.50 to 3.00	2.50 to 4.00
WITHIN EXPOSITION GROUNDS					
INSIDE INN.....Exposition Grounds	650	1.50 to 2.00	3.00 to 4.00	2.50 to 3.00	4.00 to 6.00

* Rates are European plan except when American plan is stated. Where both European and American plans are offered, the rates quoted are for European plan and where announced the additional amounts charged for American plan are stated.

† About half the price for one person may be added for each additional person more than two occupying a room.

REGISTRATION

The Importance of Registering Early—A Few Instructions Given

The Bureau of Registration will be located in the Exposition Memorial Auditorium, Grove, Larkin, Hayes and Polk streets. A committee of local physicians will assist members in registration.

A branch post-office will be opened and a Bureau of Information established in connection with the Registration Bureau.

Fellows must register in order to obtain the official badge and program. The badge will be necessary for admission to entertainments. All are urged to register as soon as they can name their hotels.

The Registration Department will be open from 8.30 a. m. to 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 21, 22, 23 and 24, and from 9 to 10 a. m. on Friday, June 25.

Attention is called to the following directions. They should be noted carefully, as by following the suggestions, much annoyance will be avoided.

1. Each physician desiring to register will first fill out the registration card. One should write very plainly, or print, as the cards are given to the printer to use as "copy" for putting the names in the daily *Bulletin*.

2. *Each Fellow who has paid his annual dues* in full will present his pocket card (which was sent him from the Chicago office) and his filled-out registration card at a window marked "Registration by Pocket Card."

3. A delay, in order that the records may be consulted, always inconveniences those who have paid their dues but who fail to present their pocket cards, as suggested above. Be sure to bring your "pocket card."

4. *Fellows who have not paid* their dues will present registration card and make payment at a window marked "Cash."

5. *Each applicant for Fellowship* will present his registration card at the window marked "New Fellows," with a certificate of membership in his state society. Prospective Fellows, however, will save delay and annoyance by sending in their applications before the session. All such applications should be mailed to the American Medical Association, 535 North Dearborn Street, Chicago, so as to arrive not later than June 10.

6. Each Fellow on registering will receive a badge, a copy of the Official Program containing a full announcement of the scientific proceedings, invitations to the social functions, and such other notices as may be of interest.

POST-OFFICES AND TELEPHONES

An Association Post-Office will be maintained at the Registration Bureau in the Exposition Memorial Auditorium. Guests are requested to order mail addressed to them "Care American Medical Association, Convention Station, Civic Auditorium, San Francisco," or to their hotels, as preferred.

Telephone booths will be provided at each meeting-place for the use of Fellows.

PUBLIC HEALTH SUNDAY IN SAN FRANCISCO

In accordance with the plan followed for several years past, speakers on appropriate public health topics will be furnished for the churches, June 20, the Sunday preceding the session. This plan was followed last year in Philadelphia and the preceding year in Minneapolis and St. Paul with great success, practically all of the churches participating, including the Jewish, Roman Catholic and all of the Protestant denominations. The work of supplying speakers for the churches is under the direction of the Council on Health and Public Instruction. A local committee, of which Dr. Sol Hyman is chairman, has been appointed to cooperate with the Council in this work. Arrangements for filling the San Francisco pulpits are now going on and it is anticipated that a large proportion of the churches will participate in the observance of Public Health Sunday. Further details will be given later as the plans develop.

SOCIAL ENTERTAINMENTS

(The official Fellow's badge, or one of those provided for ladies and guests, will be required for admission to entertainments, and to other places to which free entrance is granted to those in attendance on the annual session.)

The San Francisco Committee on Arrangements feels that visitors will want to spend their spare time at the Exposition and will not wish to be overburdened with other entertainments.

Arrangements have been completed for a golf tournament open to Fellows of the Association. Monday, June 21, is the day set for this contest. In the evening a dinner will be held at the Presidio Golf Club, where will be discussed plans for a permanent American Medical Association Golf Club. The San Francisco members have offered a cup, the "Panama Exposition Cup," to be played for on this day. Those desiring further information or wishing to be entered in this contest should address Dr. James Eaves, 126 Stockton St., San Francisco, or Dr. Will Walter, 122 Michigan Ave., Chicago.

Monday night there will be banquets and smokers of some of the societies which meet before the session.

Tuesday and Thursday nights are set aside for such banquets, smokers and vaudevilles of the sections and the various medical alumni and class reunions as these organizations will arrange.

The evening of Tuesday, June 22, has been set apart for Section dinners and smokers and gatherings of other groups. The Section on Diseases of Children plans a Section dinner. Dr. George D. Lyman is in charge of the arrangements. A dinner of the Section on Nervous and Mental Diseases is being arranged by Dr. Milton B. Lennon.

Wednesday night a reception and ball in honor of the President will be given in the California Building, Panama Pacific International Exposition Grounds. This is the most formal of the social functions of the meeting.

On the evening of Thursday, June 24, among other events, it has been announced that the members of the Medical Association of the Isthmian Canal Zone, both those who are now residents of the Zone and those who have been, will meet at the University Club, Powell and California Streets; dinner at 7:15. Dr. H. T. Summersgill, who is in charge of the arrangements, requests that reservations for this dinner be made on or before June 19. Dr. Summersgill may be addressed at the University of California Hospital, San Francisco.

AMERICAN MEDICAL ASSOCIATION EXHIBIT AT THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION

In the Palace of Education, block 19, section 154, is located the exhibit of the American Medical Association. This exhibit displays the work of the Association, more particularly with its reference to the public than along distinctly medical lines. Notwithstanding this, it will be of interest to the profession, as it graphically presents the numerous lines in which the Association serves the people and also the medical profession. The exhibit includes some of the educational placards of the Propaganda Department of THE JOURNAL; diagrammatic representations of the work of the Council on Medical Education; and certain of the cartoons of the Council on Health and Public Instruction. A glass-topped case contains the publications of the Association, showing the printed matter at the disposal of those who cooperate with the Association. In the center of the booth is a case containing twelve "three dimension" exhibits presenting to the public in an effective and startling manner the fallacies of "patent medicines," etc.

ALUMNI REUNIONS

Alumni Associations that may desire to hold reunions during the meetings of the American Medical Association are requested to communicate, through their secretaries, with Dr. Emmet Rixford, Chairman of the Committee on Entertainments, 916 Butler Building, San Francisco, the date desired for such meetings and any suggestions of entertainments they may wish to provide should be stated. Places of meeting or entertainment will be selected for them on request.

MEETINGS OF NON-AFFILIATED ORGANIZATIONS

The following medical societies are listed to hold their annual conventions and congresses in connection with the exposition: Pacific Coast Oto-Ophthalmological Society, sessions June 14, 15, 16; American Society of Tropical Medicine, sessions June 14, 15, 16; American Association Medical Milk Commissions, sessions June 17, 18, 19; Pan-American Medical Congress, sessions June 17, 18, 19; American Climatological and Clinical Association, sessions June 18, 19; American College of Surgeons, session June 21; Medical Society of the State of California, session June 21; American School Hygiene Association, June 25, 26; American Academy of Medicine, June 25, 26, 27, 28.

Pan-American Congress to Meet

The seventh Pan-American Congress will meet in San Francisco, June 17, 18, 19, 21. It assembles pursuant to invitation of the President of the United States issued in accordance with an act of Congress approved March 3, 1915.

The countries and colonies embraced in the congress are the Argentine Republic, Bolivia, Brazil, Canada, Colombia, Cuba, Chile, Costa Rica, El Salvador, Ecuador, Guatemala, Honduras, Haiti, Hawaii, Mexico, Martinique, Nicaragua, Panama, Paraguay, Peru, Santo Domingo, United States, Uruguay, Venezuela, British Guiana, Dutch Guiana, French Guiana, Jamaica, Barbadoes, St. Thomas and St. Vincent. The organization of the congress is perfected in these countries and the majority of them have signified their intention to be represented by duly accredited delegates.

The congress will meet in seven sections, viz.: (1) Medicine; (2) Surgery; (3) Obstetrics and Gynecology; (4) Anatomy, Physiology, Pathology and Bacteriology; (5) Tropical Medicine and General Sanitation; (6) Laryngology, Rhinology and Otology; (7) Medical Literature.

All members of the organized medical profession of the constituent countries are eligible and are invited to become members. The membership fee is $5 and entitles the holder to a complete set of the transactions. Advance registrations are solicited and should be sent with membership fee to the treasurer, Dr. Henry P. Newman, Timken Building, San Diego, Cal. The Palace Hotel will be headquarters.

THE COMMERCIAL EXHIBIT

Books, Instruments, Surgical Appliances, Foods, Drugs, Furniture, etc., to Be Shown at San Francisco

The Commercial Exhibit will be held on the ground floor of the Exposition Memorial Auditorium. This building occupies an entire block in San Francisco's civic center, and will house the Registration and Information bureau, postoffice, scientific exhibit and the various section meetings.

It is the aim of the American Medical Association to make the exhibits of educational value—to have demonstrated for the benefit of the profession a careful selection of the newer medical, biologic and therapeutic products and the latest instruments, books, appliances and methods. Daily visits to the Exhibit Hall will enable the A. M. A. conventionist to become informed in the shortest possible time on the latest advances in the adjuncts to his work.

The list of exhibitors this year contains names known and held in high repute by the medical profession, and the reserved, frank attitude of the representatives in charge of the various demonstrations should encourage the visitor to feel free to examine each exhibit.

Manufacturers are delighted to cooperate with the profession, to employ new suggestions and to make them promptly available to all who care to test their merits.

By attending the demonstrations at the various booths and interchanging opinions as to the worthiness of the articles under demonstration, mutual benefit will result both to the physician and to the manufacturer.

Dr. R. E. Bering, 916 Butler Street, San Francisco, is the local chairman, and Will C. Braun, 535 North Dearborn Stre t, Chicago, is the superintendent of exhibits.

On the next page we give a complete list of the exhibitors and brief descriptions of many of the exhibits.

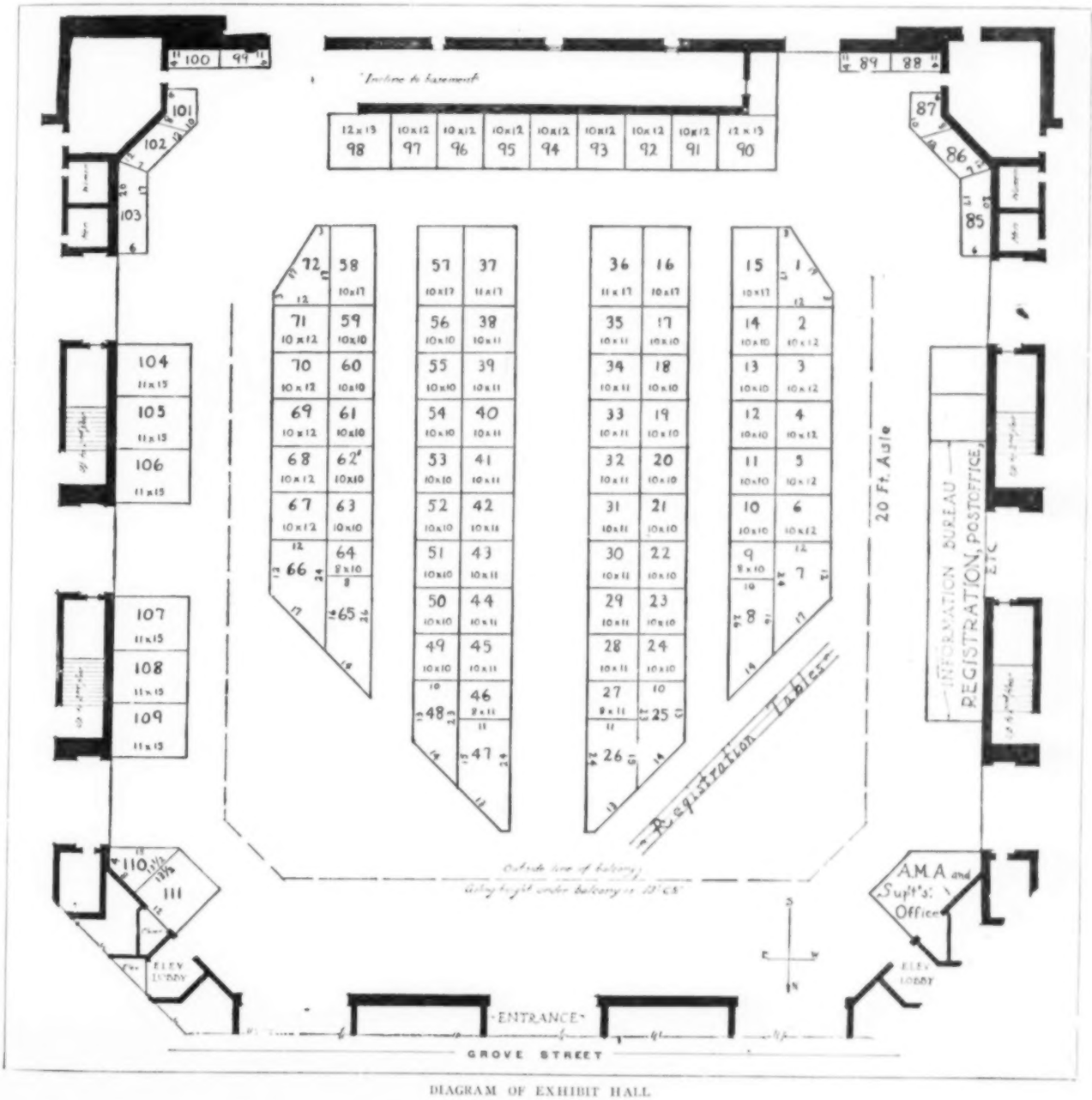


DIAGRAM OF EXHIBIT HALL

LIST of EXHIBITORS

Publishers and Books

	Space
American Medical Association	
Appleton & Co., D., New York City	67
Blakiston's Son & Co., P., Philadelphia	4
Lea & Febiger, Philadelphia	47
Lippincott & Co., J. B., Philadelphia	7
Mosby Co., C. V., St. Louis	12
Rebman Company, New York City	3
Saunders Co., W. B., Philadelphia	25-26-27
Wood & Co., Wm., New York City	65

Foods and Milk Preparations

Borden's Con. Milk Co., N. Y. City	66
Horlick's Malted Milk Co., Racine, Wis.	110-111
Johnson & Co., M., Jersey City, N. J.	51
Mellins Food Company, Boston	90-91
Uncle Sam Breakfast Food Co., Omaha	36
Welch Grape Juice Co., Westfield, N. Y.	93-94

Clinical Laboratories

Lackenbach, Fred I., San Francisco	6
Pacific-Wassermann Laboratories, S. Fran.	16
Practitioner's Laboratories, Inc., S. Fran.	58

Anesthesia Apparatus

Clark & Co., A. C., Chicago	1
Teter Manufacturing Co., Cleveland	33
White Dental Mfg. Co., S. S., Philadelphia	14

Apparatus, Instruments and Furniture

Betz Co., F. S., Hammond, Ind.	104-105-106
DeVilbiss Mfg. Co., Toledo, Ohio	44
Leitz, Ernst, New York City	17
Life Saving Devices Co., Chicago	109
Meyer & Co., Percy J., San Francisco	34-18
Mueller & Co., V., Chicago	23-24
Pilling & Son, Geo. P., Philadelphia	43
Jaeckh Mfg. Co., Cincinnati	12
Scanlon-Morris Co., Madison, Wis.	21-22
Thomas Co., F. H., Boston	29
Thorner Bros., New York City	19
Walters Surgical Co., San Francisco	54
Weder Mfg. Co., Philadelphia	46

Artificial Limbs and Supportive Appliances

Ambulatory Pneumatic Splint Mfg. Co.	86
Carnes Artificial Limb Co., Kansas City	50
Hittenberger Co., C. H., San Francisco	11

Electro-Medical and Diagnostic Appliances

Electro-Surg. Inst. Co., Rochester, N. Y.	5
Hanovia Chem. & Mfg. Co., Newark, N. J.	13
Meyrowitz, E. B., Inc., New York City	63-64
Physician's Spec. Co., Leesburg, Va.	51

Radiographic Apparatus and Accessories

Brady & Co., Geo. W., Chicago	71
Campbell Electric Co., Lynn, Mass.	37
Eastman Kodak Co., Rochester, N. Y.	35
Kelley-Koett Mfg. Co., Covington, Ky.	72
Macalaster-Wiggin Co., Boston	70
Meyer Co., Wm., Chicago	85
Scheidel-Western X-Ray Co.,	99-100-101-102-103
Snook-Roentgen Mfg. Co., Philadelphia	55
Victor Electric Co., Chicago	107-108
Vulcan Coil Co., Los Angeles, Cal.	98
Wappler Electric Mfg. Co., New York	42-52

Postgraduate Institution

San Francisco Polyclinic, San Francisco	58

Pharmaceuticals and Biologic Products

Arlington Chemical Co., Yonkers, N. Y.	28
Cutter Laboratory, Berkeley, Cal.	48
Fairchild Bros. & Foster, New York City.	45
Hynson, Westcott & Co., Baltimore	41
Lackenbach, Fred I., San Francisco	6
Mulford Co., H. K., Philadelphia	39-40
Schering & Glatz, New York City	38
Squibb & Sons, E. R., New York City	8

Underwear and Surgical Corsets

Berger Bros., New Haven, Conn.	10
Deimel Linen-Mesh Sys. Co., San Fran.	20
K. & S. Corset Co., San Francisco	56
Kops Brothers, New York	2
Linen Underwear Co., Greenwich, N. Y.	95

Sanitaria

Arrowhead Hot Spgs., Arrowhead, Cal.	53
Com. Club of Alb'que, Albuquerque, N. M.	31
The Oaks Sanitarium, Los Gatos, Cal.	81
Paso Robles Hot Spgs., Paso Robles, Cal.	62
Pottenger Sanat., Monrovia, Cal.	62

Mineral Waters

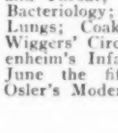
Alqua Medicinal Water Co., San Francisco	68
Calso Water Co., Vallejo, Cal.	59

Publishers and Books

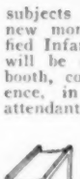
D. APPLETON & Co., New York City. Space 67. The Appletons are featuring in their exhibit their latest publication, a new five-volume work, "Operative Therapeusis," edited by Alexander Bryan Johnson, as well as several distinctive books on Diseases of the Kidneys, Ureters and Bladder, Diseases of the Stomach, Borderline Diseases, Anemia and Resuscitation, Anesthesia, Occupational Diseases, Diseases of Women, Pain, etc., by such men as Drs. Howard A. Kelly, Charles G. Stockton, J. N. Hall, George W. Crile, James T. Gwathmey, W. Gilman Thompson, Charles L. Reed, Richard J. Behan and other notable physicians who are on the Appleton list.

P. BLAKISTON'S SON & Co., Philadelphia. Space 4. Will have for free distribution a handsomely printed book of portraits that will interest medical men. This firm, as is well known, are leaders in the production of distinctly practical books covering every subject. Some notable works have been published during the past year, and the physician and surgeon will be well repaid for giving a careful examination to the books in the Blakiston booth, No. 4, opposite "Information Desk."

LEA & FEBIGER, Philadelphia. Space 47. Especially call attention to Progressive Medicine, published quarterly, bringing to the notice of the profession everything pertaining to Medicine that is thoroughly up to date. We also call your attention to the following new works and new editions, copies of which we will be pleased to show: Ormsby on Skin Diseases; Hare's Practice; Simon on Immunity; Aaron on Digestive Organs; Harrington's Hygiene; Ballenger on the Ear, Nose and Throat; Braun's Local Anesthesia; Park's Bacteriology; Polak's Gynecology; Lord on Lungs; Coakley on the Nose and Throat; Wiggers' Circulation of the Blood, and Wachenheim's Infant Feeding. We will publish in June the fifth and completing volume of Osler's Modern Medicine.



J. B. LIPPINCOTT COMPANY, Philadelphia. Space 7. Exhibit as usual their large and complete line of medical, pharmaceutical and nursing textbooks, and works of reference, covering the latest thought of the highest authorities on the most important subjects before the profession today. Many new monographs on "Immunology," "Simplified Infant Feeding," "Diabetes." The exhibit will be directly in front of the registration booth, conveniently arranged for quick reference, in charge of courteous and efficient attendants.



THE C. V. MOSBY COMPANY, St. Louis. Space 12. New books and new editions will be shown. The new books of greatest importance will be Crossen's "Operative Gynecology," Loeb's "Operative Surgery of the Nose, Throat and Ear," Horsley's "Blood-Vessel Surgery," Barnes on the Tonsils. New Editions shown will be Calot's "Indispensable Orthopædics," in two volumes, Hewlett's "Manual of Bacteriology," and Buchanan's Manual of Anatomy, in three volumes.

WILLIAM WOOD & Co., New York City. Space 65. A great number of important books of most recent publication, indicating an unusually active year in medical publishing, will be displayed. A few of the most important works, from a scientific and practical viewpoint, are: The Medical Annual, 1915 (a Year Book of Treatment and Practitioner's Index); Andrew's "Abdominal Surgery"; Monsarrat's "Operative Treatment of Cancer"; Thompson's "Eye Diseases"; Ball's "Rectal Surgery"; Glendining's "Gynecology and Obstetrics"; Perkin's "Pulmonary Diseases"; "General Medicine," by H. French, and "General Surgery," by Francis W. Goyder.

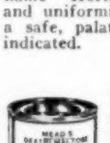
REBMAN COMPANY, New York City. Space 3. Among the interesting books to be displayed are Krause - Heymann - Ehrenfried, "Surgical Operations." Bing, "Textbook of Nervous Diseases." Krause, "Textbook of Histology." Wilson, "Student's Textbook of Hygiene." Asch, "Treatment of Gonorrhea." Lederer, "Tooth Extraction." Sheffield, "The Backward Baby." Freyberger, "Pocket Formulary." Ruttin, "The Labyrinth." Freud, "On Dreams." McNaughton-Jones, "Ambidexterity." Schlesinger, "Local Anæsthesia." Leduc, "Mechanism of Life." Woodruff, "Medical Ethnology." Kingsbury Dermochromes. Taylor-McKenna, "Salvarsan Treatment."

W. B. SAUNDERS COMPANY, Philadelphia. Spaces 25, 26 and 27. This publishing house will exhibit many new books and new editions and advance sheets of a number of works in active preparation. Among other books, they will exhibit Braasch's Pyelography, Gant's Work on Diarrhea, Inflammatory and Parasitic Diseases, Kolmer's Infection, Immunity, and Specific Therapy, Prentiss' Embryology, new edition of Tousey's Medical Electricity, X-Rays and Radium, Crile and Lower's Anoci-Association, Crile on Emotions, Volume II of Cabot's Differential Diagnosis, Thomson's Clinical Medicine, Allen's Local Anesthesia, Kerley's Pediatrics, the June volume of Murphy's Clinics, the new Mayo Clinic Volume, Mallory's Pathologic Histology, new edition of Moynihan's Abdominal Operations, new edition of Anders and Boston's Medical Diagnosis, new edition of Morrow's Diagnostic and Therapeutic Technic, new edition of Church and Peterson's Nervous and Mental Diseases, and Garrison's History of Medicine.

Foods and Milk Preparations

BORDEN'S CONDENSED MILK CO., New York City. Space 66. An exhibit of their product will be given. The process of malting milk was invented by Baron Von Liebig, but he did not possess perfect machinery, and the Borden Company utilized the vacuum process of condensing without impairment of food value, which was discovered and perfected by Mr. Gail Borden, the founder of their company.

HORLICK'S MALTED MILK COMPANY, Racine, Wis. Spaces 110 and 111. Will display "Horlick's," the Original Malted Milk, together with Horlick's Food and Horlick's Diastoid. They will also serve the delicious Horlick's Malted Milk Ice Cream and Horlick's Malted Milk in solution, cold. Physicians appreciate that the name "Horlick's" insures originality, quality and uniformity, and commend it highly where a safe, palatable and easily digested food is indicated.



MEAD JOHNSON & COMPANY, Jersey City, N. J. Space 51. An exhibit of their Dextri-Maltose (pure maltose and dextrin in about equal parts) will be made. It is a practical duplicate of the malt-sugar and dextrin preparations made in Germany, where they are largely used by pediatrists, especially those who employ the Finkelstein method of infant feeding.

The **Mellin's Food Method of Milk Modification**

MELLIN'S FOOD COMPANY, Boston. Spaces 90 and 91. Physicians seriously interested in the problems of infant feeding will be given ample opportunity to make inquiries regarding the manufacture and composition of Mellin's Food, and the application of this product in directing the nutrition of the normal healthy infant as well as the baby with a disturbed digestion.

UNCLE SAM BREAKFAST FOOD COMPANY, Omaha, Neb. Space 36. A dietetic product recently introduced to physicians as an aid in the treatment of chronic constipation. Representatives of the firm will explain how their food promotes regular and gentle peristalsis, avoiding the disadvantages of continuously administering drugs. Modern suggestions for the treatment of this affection proceed on the principle of introducing natural laxatives derived from vegetables, etc., as found in their preparation. In addition to the laxative quality, the large percentage of nutritive elements present in the food will be explained.

WELCH GRAPE JUICE Co., Westfield, N. Y. Spaces 93-94. The Welch Palace at the entrance to the Zone, Panama-Pacific Exposition, offers a cool haven for the convention-tired physician. Be sure to visit this handsome brick and stucco building at the commencement of the Joy Zone.

Anesthesia Apparatus

A. C. CLARK & Co., Chicago. Space 1. Will demonstrate the Clark Outfits for administering Nitrous Oxid and Oxygen for inducing Analgesia for Obstetrics and minor surgery and Anaesthesia, with and without Ether Sequence for major surgical operations. The Clark Company, which has been manufacturing N_2O Outfits for twenty years, will demonstrate the methods used in producing Painless Dentistry and the application of those methods and technique of Analgesia for Painless Childbirth or *American* Twilight Sleep.

TETER MFG. Co., Cleveland, Ohio. Space 33. Their Regulated Pressure Gas Apparatus will be shown. Aside from indicating the exact amounts of gases, thereby preventing waste and assuring control in giving the amount desired, this outfit enables the operator to employ nitrous oxid-oxygen in producing positive interpulmonary pressure of the gases. It has many other features that make it popular with the anesthetist.

THE S. S. WHITE DENTAL MANUFACTURING COMPANY, Philadelphia. Space 14. A new Surgical Gas Apparatus will be exhibited by this House and its many sterling features demonstrated by Dr. D. F. Morrison. This new equipment provides facilities for the induction and control of anesthesia by the nonasphyxial method. It is simple, compact, strong, positive, efficient and instant in the operation of its parts.

Apparatus, Instruments and Furniture

FRANK S. BETZ Co., Chicago. Spaces 104-105-106. This exhibit will consist of an unusually large display of surgical instruments, batteries, operating tables, lamps, sterilizers, high-frequency outfits and complete medical, surgical and hospital equipment. A flash coil which makes a skiagraph of the chest of the heaviest patient after very brief exposure will be an interesting feature.

P. J. MEYER AND Co., San Francisco. Spaces 34 and 18. A complete line of the latest instruments for the general surgeon and for the eye, ear, nose and throat specialist. The Albee Electro-Operative Bone Set will be shown; the Hawley table for the suspension and immobilization of the trunk and extremities without lifting and disturbing the patient; sterilizers for the hospital and office.

DEVILBISS MANUFACTURING COMPANY, Toledo, Ohio. Space 44. A display of a full line of prescription and physicians' atomizers. Special attention will be called to a new physician's atomizer with removable spray tubes.

JAECKH MFG. Co., Cincinnati. Space 12. Improvements in compressed air and vacuum apparatus, atomizers, nebulizers, etc., will be well illustrated in this exhibit. The Jaeckh Mfg. Co. will demonstrate the new Robertson Compressed Air and Vacuum Machines in different styles, the latest being the attractive cabinet with motor and all mechanism enclosed and with all attachments and connections, including electric lighting and heating device, arranged in the most complete and convenient order.

ERNST LEITZ, U. S. Branch, New York. Space 17. Will exhibit a complete line of microscopes of interest to the practicing physician and for use in the hospital laboratory. Of special interest to the researchist will be the Leitz New Non-Objective Binocular Microscope, which sets a new era in the development of optics in the microscope. A number of new laboratory accessories also, including appliances for hematology and urinalysis; improved models in microtomes.

LIFE SAVING DEVICES Co., Chicago. Space 109. "The Lungmotor"—resuscitating device purchased by U. S. Bureau of Mines. Exhibit showing physiological tests and mechanical construction, operation and method of resuscitation from gas poisoning, electric shock, drowning, asphyxia - neonatorum collapse on operating table.

V. MUELLER & COMPANY, Chicago. Spaces 23 and 24. Visitors to this booth will be in a position to inform themselves of what is new in instruments and apparatus in their particular branch of work. A complete collection of instruments for vascular surgery will be exhibited. New electrically driven anesthesia and suction apparatus and ingenious and practical apparatus for bringing broken bones into apposition. Illuminating and operating instruments for use in every cavity of the body will be of special interest.

F. H. THOMAS Co., Boston. Space 29. Will exhibit Ligature and Suture Products, Greeley Units, as well as other New England made products.

WALTERS SURGICAL COMPANY, San Francisco. Space 54. Will exhibit their high grade sterilizers, hospital furniture and x-ray coils—in fact, everything for the equipment of office or hospital. This firm, as well as many other Western firms, has responded to the rare opportunity of being represented at the Convention and thereby coming in personal touch with the profession from all parts of the U. S.

WEDER MANUFACTURING Co., Philadelphia. Space 46. Will have their twins on exhibit, better known as "DE LYTE SURGEON" Electric Diagnostic and Illuminating Set, with head-band, Ear and Nasal Speculums, Tongue Depressor, Magnifying Glass, in Leather Case. The Simplex Surgeon is that Surgical set that you can carry in the vest pocket to meet every emergency. It has six instruments, needles and silk and two handles, in a metal tube, ½ by 3½ inches; it is multum in parvo.

G. P. PILLING & SON Co., Philadelphia. Space 43. Will demonstrate not only the Faught Blood Pressure Apparatus, but also the Pilling Bracelet Blood Pressure Stethoscope. This stethoscope is attracting a great deal of attention, as it is claimed to be the most accurate way of taking blood pressure by the auscultatory method. This instrument consists of a Bowles Stethoscope to which an additional band has been added, fitting over the brachial artery. The whole apparatus is attached firmly to the end, thereby taking away any liability of slipping while in use.

Artificial Limbs and Supportive Appliances

AMBULATORY PNEUMATIC SPLINT MANUFACTURING Co., Chicago. Space 86. Will demonstrate the advantages of Ambulatory Pneumatic Splint for reduction, bed and walking treatment of various fractures of lower limbs, also "Ambumatic" Washable Abdominal Supporters. Also a demonstration of "Ambumatic" Flaxall Pure Linen Mesh Underwear, and of latest artificial limb, non-visible extension shoes and non-visible orthopedic appliances.

CARNES ARTIFICIAL LIMB COMPANY, Kansas City, Mo. Space 50. Will exhibit an artificial arm and hand made of steel and fiber of such ingenious mechanical construction as to enable the wearer to automatically bend the elbow, bend and turn the wrist and open and close the fingers. The demonstration will be by men wearing the arm and will consist of such feats as writing, lighting a pipe or cigar, picking up suitcases, satchels, etc.

Radiographic Apparatus and Accessories

GEO. W. BRADY & Co., Chicago. Space 71. There will be exhibited some of the work done by various x-ray operators who are using the new Paragon X-Ray Plates. These plates have met with great success since placed on the market, owing to their very fine quality, great speed and accuracy in bringing out minuteness of detail and shadow outlines. See the abdominal radiograms made under the new technique.

CAMPBELL ELECTRIC Co., Lynn, Mass. Space 37. A very interesting display of X-Ray and High Frequency Outfits to meet all requirements. They take especial pride, and justly so, in their model "Sure X," a transformer for heaviest and most rapid radiography, and intend to give the A. M. A. conventionists an opportunity to view and appreciate its merits.

EASTMAN KODAK Co., Rochester, N. Y. Space 35. Will demonstrate the "Seed" X-Ray plates for Gastro-Intestinal and Serial Stomach Examinations. These plates are becoming very popular with those who require extreme speed, with or without the use of the intensifying screen. If you are going to the Convention it will be worth while viewing this exhibit.

THE MACALASTER-WIGGIN Co., Boston. Space 70. Will exhibit a complete line of x-ray tubes and accessories. They will show some new types of water-cooled tubes for long and hard usage. They have recently brought out a new type of cathode which is of great importance to all users of x-ray tubes. Breakage will be prevented to a greater extent than heretofore, and the tubes will take a great deal more current without overheating than ever before.

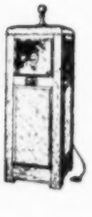
THE KELLEY-KOETT MFG. CO., Covington, Ky. Space 72. Will exhibit their very latest creations in X-Ray Transformers, Fluoroscopic Appliances, X-Ray Localizers, Automatic Platechangers, Combination Tables, Stands, etc. Everyone interested in x-ray work should call upon Mr. Kelley and Mr. Fenn in Space 72—just to see the new things bearing that old familiar "COUPLE OF K's" trademark.

THE WM. MEYER COMPANY, 819 W. Washington Blvd., Chicago, Ill. Space 85. A new type of interrupterless x-ray machine containing several novel basic features will be shown. The *radiographic work* done with this new type machine and with the Meyer method by a roentgenologist without previous transformer experience is to be demonstrated. There will also be demonstrative Clinics at two Hospitals showing the operation of this interrupterless x-ray machine and the Meyer Combined Vertical and Horizontal Radioscope. Free tickets on application at their space.

SCHEIDEL-WESTERN X-RAY COIL COMPANY, Chicago. Spaces 99, 100, 101, 102, 103. Whether you are an x-ray operator or not, this exhibit will prove particularly interesting. Demonstrations will be given daily of the latest apparatus for roentgenoscopic examinations. There will also be shown a new interrupterless transformer which is said to be the first machine of this type where both the voltage and amperage will be under absolute control at all times.

VICTOR ELECTRIC CO., Chicago. Spaces 107 and 108. Will have on display what is now conceded to be one of the most complete lines of modern Roentgen apparatus and accessories on the market. Be sure and see the Victor Interrupterless Transformer—the one with "the x-ray punch;" also the new Victor-Bergonie apparatus for treating Obesity, Rheumatism, Diabetes, etc., and a number of other new electro-medical appliances which will be exhibited for the first time.

WAPPLER ELECTRIC MFG. CO., New York City. Spaces 42 and 52. The Wappler booth has always been a Mecca for those interested in real new scientific instruments and advice regarding x-ray or general therapeutic apparatus. A particularly fine line of the characteristic product will be displayed, and we will take the occasion to thank our patrons for their past favors and cooperation.



VULCAN COIL COMPANY, Los Angeles, Cal. Space 98. An exhibit mainly of portable X-Ray and High Frequency treatment apparatus, but there will also be shown some samples of their larger treatment apparatus in cabinet form delivering all known modalities in high frequency, including D'Arsonval, Diathermy, Fulguration, Desiccation without Carbonization, Morton Wave, etc.

Electro-Medical and Diagnostic Appliances

E. B. MEYROWITZ INC., New York City. Spaces 63 and 64. A very complete line of Ophthalmological Apparatus and Eye, Ear, Nose and Throat Instruments is to be exhibited. One of the important instruments, interesting to general practitioners as well as specialists, is the Marple Electrically Lighted Ophthalmoscope, by means of which any one can make an examination of the fundus of the eye for general diagnosis after a very brief experience. This instrument can be had if desired with an Auriscope and Retinoscope Attachment, making a complete instrumentarium for the eye and ear. Other prominent features were Illuminating Apparatus in great variety, the new Hare Perimeter and a special form of incandescent lamp, pronounced a very important achievement.

ELECTRO-SURGICAL INSTRUMENT COMPANY, Rochester, N. Y. Space 5. Will exhibit and demonstrate, opposite the registration booth, complete line of electrically lighted diagnostic and surgical instruments for the general practitioner as well as the specialist. The instruments are now equipped with lamps with drawn tungsten filaments which give maximum illumination, while their temperature remains practically the same as that of the tissues under examination.

PHYSICIANS SPECIALTY CO., Leesburg, Va. Space 51. The Thompson & Plaster Electrical Cabinet for office practice; a highly specialized and efficient machine quality; capable of performing operations embracing the use of Compressed Air (tankless), Nebulizing, Electric Heating for fluids and air, Vibrator for Surface and Cavity Work, Bier's Hyperemia by Vacuum, D'Arsonval Current under Perfect Control, High Frequency Currents, Cautery Transformer, Diagnostic Light Controller, X-Ray, etc.

Pharmaceuticals and Biologic Products

CUTTER LABORATORY, Berkeley, Cal. Space 48. An interesting display of high grade biological preparations. They are anxious to prove to the conventionists from the East, West, North and South the high quality of their products and to explain to them the features of their service.

FAIRCHILD BROS. & FOSTER, New York City. Space 45. Exhibit products with which the name Fairchild has been so long associated, original entire gastric gland and pancreas gland extracts, with the newer products in the progress of the applied science to which they devote their attention. Pepton, Fairchild, for bacteriologic purposes, Fairchild Culture Pepton for the convenient preparation of complete culture medium, The Fairchild Culture of the Bacillus Bulgaricus are of special interest.

THE HYNSON, WESTCOTT AND COMPANY, Baltimore. Space 41. This laboratory has produced some very unique and interesting products during the last five years, which it will attractively exhibit. Besides the specialties, Bulgara, Lutein and Glycotauro, it will exhibit new diagnostic appliance and agents, such as Keidel Bleeding Tubes, Blood Culture Bleeding Tubes, Colorimeters, Phenolsulphonephthalein, Phenoltetrachlorphthalein, Urease - Dunning. Demonstrations will be made of the Massol-Grigoroff milk curdling organism, *B. lactis bulgaricus*.

H. K. MULFORD COMPANY, Philadelphia. Space 39-40. A scientific exhibit of bacterins, serums, sero-bacterins and vaccines. Showing methods of production with working bulletins compiled from the latest information on the special subjects treated. This is not only designed to be an interesting but an instructive scientific exhibit to aid every practitioner.

SCHERING & GLATZ, New York City. Space 38. Will as in former years show a display of their leading synthetic therapeutic agents, arranged in such a manner as to demonstrate the progress made, and the prominent place occupied, in this field by the various manufacturers represented by the firm.

E. R. SQUIBB & SONS, New York. Space 8. Will exhibit a representative collection of their high-quality products, comprising U. S. P. and N. F. Chemicals and Pharmaceuticals and Medicinal Tablets; also Impurities removed from some products after they have reached the U. S. P. requirements, to bring them up to the Squibb standard. Samples of a few preparations will be at the disposal of physicians.

FRED I. LACKENBACH, San Francisco. Space 6. Will feature the biologic products included in New and Nonofficial Remedies—serums and antitoxins, bacterial vaccines, serobacterins, tuberculins and viruses, and the various diagnostic reagents. Technic of preparation will be described; containers and methods of employment demonstrated, and products displayed in finished packages. Preservation of such products under proper temperature and storage conditions will be suitably demonstrated.

Underwear and Surgical Corsets

BERGER BROTHERS, New Haven, Conn. Space 10. Spencer Abdominal Supporting Corsets, the new Sacro-Iliac Support, Maternity Supporting Corset and other interesting Supports will be shown. Demonstrators will explain the Spencer method of designing each Support especially to meet the needs of the individual patient without extra charge.

DEIMEL LINEN-MESH SYSTEM COMPANY, San Francisco, Cal. Space 20. The exhibit of the Dr. Deimel Linen-Mesh Underwear is celebrating its 21st Anniversary, having made its first appearance at the Annual Session held in Baltimore, May, 1895. Visitors are cordially invited to inspect the Dr. Deimel Garments, which are made for men, women and children in all sizes and styles.

K AND S CORSET CO., San Francisco, Cal. Space 56. There will be demonstrations showing their methods of fitting corsets by correct anatomical, physiological and scientific measurements. It will be explained how to judge as to the efficiency of an appliance for proper surgical support, with special attention to the adjustment of their corsets for maternity cases, abdominal ptoses and postoperative retention.

KOPS BROS., New York. Space 2. A new "anti-ptosis" corset, having as a special feature their newly invented "Wonderlift" Bandage, made completely adjustable by a novel interior lacing device. The Bandage is semielastic; it fits closely the groin section, giving complete visceral support from underneath. This ingenious device closely simulates the obliquus externus and internus and the recti muscles, and even Poupart's ligament.

THE LINEN UNDERWEAR COMPANY, Greenwich, N. Y. Space 95. Will show samples of Flaxal Linen Mesh Underwear. This garment is made of pure linen knitted cloth designed for the express purpose of proper hygienic and comfortable underwear of exclusive character. It is made in three weights and in all the different style shirts, drawers and union suits.

Sanitariums

OAKS SANITARIUM, Los Gatos, Cal. Space 81. Some interesting pictures will be shown and much valuable information given visiting physicians regarding their cottage plan of treatment. This Sanitarium is situated in the foothills of the Santa Cruz Mountains, with climate and surroundings ideal for the care and treatment of tubercular patients.

POTTENGER SANITARIUM, Monrovia, Cal. Space 62. Will exhibit and explain the advantages of their institution for the scientific care and treatment of diseases of the lungs and throat. This Sanitarium is run on the cottage plan, and is already quite well known to the medical profession. It will pay any physician to get an accurate idea of the accommodations and high character of this institution.